পঞ্জীভুক্ত নম্বৰ - ৭৬৮ /৯৭ Registered No.-768/97

# অসম ৰাজপত্ৰ

সত্যমেব জয়তে

# THE ASSAM GAZETTE

## অসাধাৰণ

## EXTRAORDINARY

## প্ৰাপ্ত কৰ্ত্তৃত্বৰ দ্বাৰা প্ৰকাশিত

## PUBLISHED BY THE AUTHORITY

নং 582 দিশপুৰ, বুধবাৰ, 20 ডিচেম্বৰ 2023, 29 আঘোণ, 1945 (শক)

No. 582 Dispur, Wednesday, 20th December, 2023, 29th Agrahayana, 1945 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING AND URBAN AFFAIRS

**NOTIFICATION**

The 26th September, 2023

**ECF No. 376573/5.-** In exercise of the powers conferred by the section 9 and Sub-Section (1) of Section 10 of the Assam Town & Country Planning Act. l959 (as amended) and (Assam Act. II of 1960) read with sub-rule (1) of Rule 3 of the Assam Town and Country Planning (Publication of Master Plan and Zoning Regulations) Rules 1962, the Governor of Assam is pleased to publish the following notice regarding the publication of Draft Master plan for Geater Sipajhar-2041.

**NOTICE FOR THE PUBLICATION OF DRAFT MASTER PLAN FOR GREATER SIPAJHAR- 2041**

1. It is notified that the Draft Master plan for Greater Sipajhar Area prepared by the Directorate of Town & Country Planning, Assam, under section 9 of the Assam Town & Country Planning Act. 1959 (As amended), as described in the schedule below is hereby published.

2. Any person or persons affected by the Draft Master plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Dispur, Guwahati-6 within two months from the date of publication.

3. The Draft Master plan for Greater Sipajhar Area with all relevant papers and maps may be inspected free of Cost during office hours at the Office the Director, Town & Country Planning, Assam, Dispur, Guwahati-6, the Deputy Director, Town & Country Planning, District Office- Mangaldai, the Circle office, Patharighat Revenue Circle, Sipajhar Revenue Circle, Office of the Chairman, Sipajhar Municipal Board, Sipajhar, Copies of the Draft Master plan for Sipajhar are available at the office of the Deputy Director, Town & Country Planning, Mangaldai for sale on payment.

## SCHEDULE - I

**SITUATION AND AREA:**

District : Darrang, Assam
Sub-Division : Mangaldai
Revenue Circle : i) Patharighat Revenue Circle
ii) Sipajhar Revenue Circle
Total Master Plan Area : 77.12 Sq. Km.
Population (Sipajhar M.P.) : 58,964
Sipajhar Municipal Area : 7.63 Sq. Km.
Population (Sipajhar M.B.) : 15,100

(A) Sipajhar Municipal Area, (B) Revenue Villages included in the Draft Master Plan for Sipajhar, Darrang District, Assam

| Mauza | Sl. No. | Areas | Dag No. |
|---|---|---|---|
| | | (A) MUNICIPAL AREAS | All Dags |
| | | (B) NAME OF VILLAGES | |
| Rainakushi, Patharighat Revenue Circel | 1 | Bar Kaliajhar | Do |
| | 2 | Ghorasal | Do |
| | 3 | Muslim Ghopa | Do |
| | 4 | 2 No. Chengapara | Do |
| | 5 | Batabari | Do |
| | 6 | Niran Chuba | Do |
| | 7 | Kumarpara | Do |
| Sipajhar, Sipajhar Revenue Circel | 8 | Maruti | Do |
| | 9 | Nijsipajhar | Do |
| | 10 | Maharidal | Do |
| Hindughopa, Sipajhar Revenue Circel | 11 | Satgharia | Do |
| | 12 | Dankhin Chuburi | Do |
| | 13 | Kabaichuba | Do |
| | 14 | Pithakhowa | Do |
| | 15 | Jhakuwapara | Do |
| | 16 | Bor Athiabari | Do |
| | 17 | Pakabangipara | Do |
| | 18 | Satmather | Do |
| | 19 | Hazarikapara | Do |
| | 20 | Ghopa | Do |
| Lokrai, Sipajhar Revenue Circel | 21 | Pachin Chuburi | Do |
| | 22 | Balipara | Do |
| | 23 | Nayakpara | Do |
| | 24 | Metapara | Do |
| | 25 | Gharoasonapur | Do |
| | 26 | Khatikuchi | Do |
| | 27 | Dhokapara | Do |
| | 28 | Byaspara | Do |
| | 29 | Bijulibari | Do |
| | 30 | Punia | Do |
| | 31 | Dhekipara | Do |
| | 32 | Duaripara | Do |
| | 33 | Narikali | Do |
| | 34 | Bhotardal | Do |

Boundary Description of Greater Sipajhar Master Plan :

East : Saktola River
West : Na-Noi River
North : Piporakuchi, Goaljhar, Kenduguri
South : Botha Beel

**KAVITHA PADMANABHAN,**
Commissioner & Secretary to the Government of Assam,
Department of Housing and Urban Affairs,
Dispur, Guwahati-6

# CHAPTER -I

## 1.0. INTRODUCTION:

Preparation of Master Plan is an envisioning process which requires sound assessment of the ground realities for providing options for sustainable development within the bounds of the demographic, physical, socio-economic, jurisdictional and financial aspects and it is a continuous process.

Sipajhar is an administrative, cultural, educational as well as commercial centre in Darrang District. The Sipajhar area is well known for its rich cultural heritage of Darangi culture and it is the Cultural Capital of the District. In pursuant to notification no. UDD(M)107/2020/17, dated7th August 2020 ,Sipajhar Municipality was constituted with 10 (ten) nos. of wards comprising of an area of 7.60 sq.km. For the first time in 2022, ULB elections were held and accordingly a Municipal Board was formed.

As per 2011 census, the urbanization rate of Darrang District is 6.10% against the State urbanization rate of 14%. Sipajhar is an old way side town with a vast hinterland. It is an up-growing urban centre in Darrang district. With the formation of the Urban Local Body, it is imperative that Master Plan for Sipajhar town with adjoining areas are now required to be formulated as per the provision laid down in the Town & Country Planning Act.1959 (as amended). Accordingly, the work is carried out covering all necessary guidelines and SOP.

While preparing this Master plan for Sipajhar, various surveys, such as land use, socio-economic, traffic surveys etc. were carried out to understand the existing conditions of the town. Necessary interpretation and analysis of the data collected were carried out in order to assess the urbanization scenario and to guide the future growth.

The present area for Master plan of Sipajhar has been demarcated after careful study of the present trend of growth of the town, the physical features of the surrounding areas and the future scope for development etc.

## 1. 1. LOCATION& BACKGROUND:

Sipajhar town is located at a distance of about55 kms from Guwahati city and is well connected by roads on the northern bank of the river Brahmaputra. The National Highway 15 passes through the town which connects it to Guwahati as well as Mangaldai and Tezpur town situated towards east at a distance of 18 km and 119 km respectively. The Tangla town under Udalguri districtin BTAD situated at a distance of 36 kms is also well connected with Sipajhar via Patharighat – Barichowka road. Sipajhar also serves as commerce cum service

centre serving a vast hinterland dominated by agrarian society. The latitude and longitude of the town is 26°40'10" North and 91°89'53" East respectively with an RL of 51.739 metres as per record.

The economy of the Greater Sipajhar area is based on agriculture and accordingly the town has developed as anagro based commercial town. With the establishment of Sipajhar Revenue Circle Office, Block Development Office (P&RD),PWD (R),Sipajhar Municipal Board and few other Government offices as well as Educational Institutes, it has also emerged as an important administrative centre in the District.

## 1.2. GREATER SIPAJHAR MASTER PLAN AREA:

The total area covered within the Master plan area is 77.12 sq.km. which includes 7.60 sq.km. of Municipal area. It comprises of 34 nos. of revenue villages under SipajharRevenue Circle and Patharighat Revenue Circle.

## 1.3.PHYSICAL FEATURES:

Physiographically,Sipajhar town and its surrounding areas are situated on flat alluvial plains. The mighty river Brahmaputra flows at a distance of 5 kms approximately from the Master Plan boundary in the south. Three major tributaries of Brahmaputra, namely, Na-Noi, Bengriveri and Saktola river flowseither along the Master Plan boundary or through Master Plan. All these tributariesare originated from the foothills of Bhutan Himalayas.During the monsoon season these rivers swell out fully inundating the surrounding areas.

## 1.4. CLIMATE:

Sipajhar Master Plan area has similar climatic condition with the rest of the Brahmaputra valley with hot humid summer and cool, dry winter season. The south-west monsoon flows over the areas as a result heavy rainfall occur in the region in summer. The monsoon commences from the end of March and intensity gradually increases up to August and then declines to the minimum during November and December.

Average annual rainfall is about 190 cm. Mean annual maximum and minimum temperatures of the town are 40°C and 8.40°C respectively. The relative humidity is about 37% in the month of February/ March and about 75%-85% in other months.

## 1.5.HISTORY:

Sipajhar and its surrounding areas have many historical importances. There are evidences scattered all over these areas from Pal Dynasty, Bhuyan Dynasty and Koch Kings

of Darrang. The ponds, namely, Jaipal Pukhuri, and Baldev Pukhuri were dug by the Pal Kings and Koch Rajas respectively as water reservoirs dedicated to public. There are also several temples in the Master Plan area which have got historical background.

The origin of the name 'Sipajhar' is thought to have come from two words: 'Sipa' or 'Sipra' and 'Jhar'. 'Rigveda' one of the four 'Vedas', the holy scriptures of Hindu, mentions a rivulet named 'Sipha' or 'Sipra' flowing through the region. As this rivulet flowed through dense grass land which is locally known as 'Jhar', this area is known to be as 'Sipajhar'.

# CHAPTER-II

## 2.0 POPULATION AND CITY FUNCTION:

Growth and decay of a human settlement is influenced by the character and magnitude of functions discharged by the settlement, its economics and communication network and relationship with the hinter land. The settlement performs a certain set of functions, some of which are local in nature, whereas others have regional and national dimensions. The growth or change in population of a town, unless some special stimulus is injected, are often correlated to the corresponding change in population in the hinterland. A town being a commercial and service oriented in nature attracts a good number of populations from the surrounding villages who migrate to towns in search of livelihoods. A faster growth rate of a town generally refers to economic potential and therefore a study in change in the population and its composition for such an area, enables to foresee the growth potential of the urban area for a period for which the Master Plan is envisaged. As per an estimate made by Sipajhar Municipal Board the present population of Sipajhar Town is 15100.

It is imperative that studies on age-sex structure, population growth, occupational pattern etc. would help to make assessment of needs in respect of Housing, Commerce, Public Utilities, Recreation, Amenities etc. It is envisaged that the proposed Master Plan for Greater Sipajharwould be able to cater to the aspirations of the population for whom the plan is prepared.

## 2.1. POPULATION GROWTH:

An observation of Table I will reveal that the decadal population growth of the Master Plan Area from 1971 to 1991 was highest which is 25.89%. at an average rate of 13% per annum. This can be attributed to the overall migration that took place during this period that settled around this localities who are basically migrant agricultural workers. The growth rate slowed down to 8.54 % during 1991-2001 due to stagnancy in development. It further which further reduced slightly to 8.14% during 2001-2011

**TABLE-I**

| Year | Total Population | % Growth |
|---|---|---|
| **1971** | 39,904 | - |
| **1991** | 50,234 | 25.89 |
| **2001** | 54,525 | 8.54 |
| **2011** | 58,964 | 8.14 |

**Growth of Population in Greater Sipajhar Master Plan Area**

Source: Census of India

## 2.2. SEX RATIO :

The sex-ratio of an urban settlement is often influenced by the migration trends of working force and the housing situation. The male generally ventures out and leaves his family behind and remains alone in the new settlement until and unless he has acquired a regular employment and some accommodation. Thus an adverse sex-ratio is an indication of high migration rate and short housing supply. The overall sex ratio of the town has increased from 724 in 1971 to 859 in 1991. Further the sex ratio increased from 910 in 2001 to 945 in 2011. Increasing sex ratio is an indicator of more female participation in work force while adverse sex ratio may indicate a rapid growth of urban centre.

## 2.3. OCCUPATION AND EMPLOYMENT PATTERN :

### 2.3.1 WORK FORCE PARTICIPATION RATE :

Work Force or Labour force participation rate is defined as the section of working population in the age group of 16-64 in the economy currently employed or seeking employment. People who are still undergoing studies, housewives and persons above the age of 64 are not reckoned in the labour force. The capacity of an urban area to provide variety of jobs and absorbing its working population in various sectors is an indicator of the economic

viability of the urban area. The participation rate also gives us an idea of the share of gainfully employed persons against the dependent and non-working population. Generally the participation rate is high in urban areas which are growing rapidly. In case of Sipajhar Town,

| Year | Total Population | Total Worker | Primary Worker | % of Primary to total worker | Secondary worker | % of Secondary to total worker | Tertiary worker | % of Tertiary worker |
|---|---|---|---|---|---|---|---|---|
| **1971** | 39904 | 6889 | 5438 | 78.95 | 219 | 3.17 | 1232 | 17.88 |
| **1991** | 50234 | 8618 | 7142 | 83.0 | 728 | 8.44 | 748 | 8.67 |
| **2001** | 54525 | 12118 | 6709 | 55.36 | 786 | 6.49 | 4623 | 38.14 |
| **2011** | 58964 | 16027 | 9958 | 62.13 | 631 | 3.93 | 5438 | 33.93 |

there was a decreasing trend in the participation rate from 29.76 % in 1971 to 28.62 % in 1991. However it slightly improved to 31% in 2001 and in 2011 the same was recorded at 36% indicating a slow growth.

2.3.2. OCCUPATIONAL PATTERN:

**TABLE-II**

**Greater Sipajhar Master Plan Area**

**Temporal Variations of Workers in Different Sectors 1971-2011**

Source: Census of India

A close look in the occupational pattern in Greater Sipajhar Master Plan area at Table –II will reveal that the secondary and tertiary sectors have gained at the cost of primary sector. The share of workers in tertiary sector has increased from 17.88 % in 1971 to 33.93 % in 2011 which is almost two times. For the similar time period the share in the primary sector has decreased from 78.95 % in 1971 to 62.13 % in 2011. The secondary sector shows a growth from 3.17 % in 1971 to 8.44% in 1991 which again decreased to 3.93% in 2011 which is not very significant . It needs to be mentioned here that this Tertiary Sector in Greater SipajharMaster Plan Area comprises of Government and private sector services, Trade and Commerce and other allied activities.

Occupational patternof Sipajhar Master plan area reveals that the town is slowly growing as a Service centre with more and more service oriented activities are established. Generally this trend would continue with Service and Trade and Commerce being one of the major functions of the town in years to come in the same rate or even less unless some major thrust is given.

## 2.4. MAJOR URBAN FUNCTIONS:

Like human personality, urban areas are also attached with intangible values like status and character. Activities of the urban dwellers which emerge from the urban functions are often manifested in the physical development of the town. A harmonious blending of the 'function' and the 'activities' leads to a healthy and orderly development of the urban area reflecting its true 'personality' and 'character'.

It is universally accepted fact that 'form' follows 'function'. The clarity of function reveals a true forms. If the functions are not well defined and harmoniously blended the 'Form' may get confused and result in clumsiness and chaos.

Following are the major functions of Greater Sipajhar Master Plan Area:

### 2.4.1. ADMINISTRATIVE:

Sipajhar is a statutory Town of Darrang District and Sipajhar Municipal Board is the urban local body. The SipajharCircle Office is situated in the town along with the Block Development Office. Accordingly administration is one of the important functions of the Master Plan area. Other

### 2.4.2. INDUSTRIAL:

Agriculture is the major occupation in the surrounding area of Greater Sipajhar Town and accordingly only agro based industries like rice and oil mills along with food processing industries are prevalent in the Master Plan area.

A major step was initiated in Sipajhar in 1987 with the establishment of Prag Bosimi Synthetics Limited (PBSL) which is the largest Joint Sector Company and only industrial

venture of public – private initiative in the entire North East India promoted by the Government of Assam through Assam Industrial Development Corporation Limited (AIDC) and Mr. H. B. Vyas Group. It is the first major Polyester Filament Yarn project that has come up in the North East outside Public Sector since Independence. This grass root project was envisaged to be the catalyst for rapid development of textile and handloom related industries in Assam. But since lock down due to covid-19 outbreak, at present the industry is lying closed.

### 2.4.3. COMMERCIAL:

Greater Sipajhar Town serves a vast rural hinter land. For consumable goods and other inputs for agriculture etc. the rural area is dependent on the town. This is one of the major economic activities of the town and an important function. Therefore, this sector has some potential to boost the economy of the Master Plan areain future.

### 2.4.4.EDUCATIONAL:

The SipajharTown has a history of patronising education in Darrang district. The town is emerging as an important educational centre in theregion. Institutions from primary education to higher educational facilities are present in the area.

In 1930, the SipajharM.E. School was established which was upgraded to a High School in 1937 and later on to a Higher Secondary School in 1963. Sipajhar also cut a niche in promoting education in women with establishment of Sipajhar B.J. Girls' Primary School in 1930 under the patronisation of Late HaliramSaharia. The Sipajhar Girls M.V. School was established in 1943. One of the leading institutions ofhigher education,Sipajhar College, was established in 1971 with the vision of making qualityeducation accessible to the economically disadvantaged student community of the greaterSipajhar area. With the establishment of this college, Sipajhar gained more prominence in educational map of Darrang District. Another premier institute to promote education, the Sipajhar B.Ed. College, was established in 1994.Presently, a few private schools as well as Junior Colleges have come up in Sipajhar areain order to fulfil the demand.

# CHAPTER -III

## 3.0 PHYSICAL GROWTH AND EXISTING LAND USE PATTERN:

In order to conceive a justifiable land use proposal for an integrated urban structure for the GreaterSipajharMaster Plan area it is imperative to understand the existing land use patterns. Present disposition of the activities in the town and around, along with the existing growth trends and other physical impediments etc. are required to be identified and studied first before proceeding further.

### 3.1. PHYSICAL GROWTH TRENDS:

Sipajhar town is located at a distance of about 55 kms from Guwahati city and is well connected by roads on the northern bank of the river Brahmaputra. The National Highway 15 passes through the town which connects it to Guwahati as well as Mangaldai and Tezpur town situated towards east at a distance of 18 km and 119 km respectively. The Tangla town under Udalguri district in BTAD situated at a distance of 36 kms is also well connected with Sipajhar via Patharighat – Barichowka road.

A well established ribbon development could be seen as all the major developments have taken place along this National Highway and other roads. However, development thrust could be observed along the NH-15 and the north-south corridor. In absence of a good road network, the hinterlands along these roads are not well developed. There are still empty pockets within a busy residential area.

### 3.2. LIMITING FACTORS:

Greater SipajharMaster Plan area is mostly a plain area. The areas to the south of the existing National Highway are low-lying and basically flood plain of Brahmaputra River and hence liable to flooding. Any development proposed south of National Highway will call for proper flood protection works along with earth filling which shall require a sizeable resource and thus it can be a limiting factor for further development in this direction. Further the region is devoid of any industries. The only remarkable industry, the Prag Bosimi Synthetics Limited is non functional at present which is another limiting factor influencing the economy and employment scenario of the region.

### 3.3. LAND USE ANALYSIS:

A study of the existing land use pattern of Sipajharand surrounding area is required to assess the development pattern and also spatial disposition of various activities. This will influence the future trend of development and also act as a guiding principle to chalk out policies for future development of Greater SipajharMaster Plan area.

#### 3.3.1. LAND USE CLASSIFICATION:

In order to understand the dynamics of land uses in the Master Plan area and the relationship among various uses, land uses has been classified in to following 12 (twelve) categories. Following are the categories:

(1) Residential
(2) Commercial
(3) Industrial
(4) Public – Semipublic
(5) Recreational
(6) Openspace
(7) Green Belt
(8) Eco Zone
(9) Agriculture
(10) Water bodies.
(11) Transport
(12) Special Zone

The above land classifications would broadly cover all the land uses in the Master plan area and would facilitate a comparative study of existing and proposed land uses.

#### 3.3.2. EXISTING LAND USE PATTERN:

An analysis of the existing land use pattern will reveal that the proposed Master Plan area is predominantly Agricultural with highest share of land use - 55.30%. This is followed by the residential use which is 18.40%. This can be attributed to the fact that majority of the area are under the Master Plan are rural in nature and actually villages. Existing residential development are plotted development and no apartment building has really come up in Greater Sipajhar locality.

Water Bodies occupies 6.51% which are basically char areas and dead channels which needs conservation. The share of land under Public- Semi public is 0.66%. Share of land in the Master plan Area under Industrial use is negligible which is only 0.58%. The Industries is mostly brick manufacturing units and some light agro-based industries. The use of land under recreation, open space and green belt are also minimal which is required to be relooked in order create a balance in land use pattern in Greater Sipajhar Master Plan.

**TABLE- III**

**Existing Land Use pattern of Greater SipajharMaster Plan Area, 2021**

| Sl. | Land Use Categories | Area in Ha | PC of total area |
|---|---|---|---|
| (1) | Residential | 1419.14 | 18.40 |
| (2) | Commercial | 22.13 | 0.29 |
| (3) | Industrial. | 44.42 | 0.58 |
| (4) | Public –Semipublic | 50.92 | 0.66 |
| (5) | Recreational | 18.86 | 0.25 |
| (6) | Open space | 179.40 | 2.33 |
| (7) | Green Belt | 1048.41 | 13.60 |
| (8) | Agriculture | 4264.96 | 55.30 |
| (9) | Water bodies. | 502.25 | 6.51 |
| (10) | Transport | 162.00 | 2.10 |
| | Total Area | 7712.49 | 100.00 |

Source: T & C P Survey

3.3.3 INTER RELATIONSHIP OF LAND USES :

A glance at existing land use pattern of Sipajhar Master Plan area reveals that majority of the land area, to the extent of 55.30 %, is predominantly under Agricultural use which is followed by 18.40 % residential use. Therefore, the whole area is predominantly rural in nature. Other uses, namely, Commercial, Industrial and Public Semi public uses are less than 1 %. Green cover and Water Bodies cover a significant area giving a separate identity to the area.

All the important uses under Commercial and Public semi public have come up along the National Highway leading to pressure and traffic congestion at the main traffic junction. This has lead to chaotic situation many a times causing fatal road accidents.

Further the hierarchy in commercial uses, namely, wholesale and retail is missing which has caused severe traffic and environmental issues. The retail commercial activitieshas to be dispersed all around the Master Plan in terms of shopping complexes to increase the efficiency to decrease the pressure in the town centre.

# CHAPTER -IV

## 4.0. HOUSING:

Residential areas cover a major portion of an urban settlement at any point of time which influencessignificantly the total quality of urban life which in turn affects the efficiency of the settlement. In fact, the total urban form and character emerges from the quality of housing areas and its interrelationships with work centre and other non-residential uses.

Generally speakingthe word housing means dwelling units in terms of quality and quantity along with peripheral facilities. Accordingly quality of housing is more dependent on the elements of housing areas such as disposition of various amenities, layout of developed land, provision of roads, water supply, sewerage, drainage and provision for basicfacilities like shops, school, parks etc. An effort has been made to study various issues related to housing in totality in this context in Sipajhar Town.

As mentioned earlier, an observation of development pattern in residential sector in Sipajhar Town will reveal that low density, linear and sprawled up development along with low investment in infrastructurewhich is one of the major reasons for aggravated problems as well as shortage in the basic infrastructure facilities. It is obvious that such development calls for a considerable investment in order to provide the residing community with the requisite infrastructure such as water supply drains and sewerage. To make the situation worse the revenue generated from such a community also very less which makes it difficult for authority to maintain such facilities. This in turn leads to poor quality of housing as well as poor quality of life.

This factor needs to be taken into consideration while addressing various problems of housing in the town.

The table- IV gives the dispersal of residential activity in various wards in the town. A look in this table will reveal that ward no. 8 has the highest concentration of residences and shares 16.62% 0f total population. Ward no. 2 in contrary shares 7.74 % of population which is lowest.The Central Business District area comprising of part of the wards 3,5,6 and 7 ward no. shares 39.32 % of total town population.

**TABLE -IV**

**Ward-wise distribution of population in Sipajhar Municipal Area**

| Ward No. | Numbers of Household | Population | % |
|---|---|---|---|
| 1 | 272 | 1320 | 8.74 |
| 2 | 250 | 1169 | 7.74 |
| 3 | 315 | 1230 | 8.15 |
| 4 | 249 | 1209 | 8.01 |
| 5 | 348 | 1429 | 9.46 |
| 6 | 308 | 1357 | 8.99 |
| 7 | 342 | 1929 | 12.78 |
| 8 | 561 | 2510 | 16.62 |
| 9 | 340 | 1569 | 10.39 |
| 10 | 351 | 1378 | 9.13 |
| **Total** | 3336 | 15100 | |

Source: Sipajhar Municipal Board

## 4.1. LIVING CONDITION:

Living conditions of residential areas is inter-related with the environmental issues. In order to understand and identify the problems of these areas it is essential to examine the living conditions of these areas both qualitatively as well as quantitatively. Qualitative aspect of living environment covers study of housing areas in terms of structural conditions, standard of services , relationships of housing areas and work centres, provision of services like education, health and recreation, provision of services like water supply, drainage and transportation linkages, while quantitative aspect covers tenure states, housing shortage, residential density and occupancy rate etc.

### 4.1.1. GROWTHOF HOUSING AREAS:

Urban housing is mainly confined to the Municipal limit. The residential areas shown outside the Municipal boundaries are rural housing. The land utilization rate within the Municipal areas is around 6.82 Hectares for 1,000 person. Whereas the utilisation rate outside the municipal limit is around 20 hectares per 1000 persons. This suggests a very low utilisation rate of residential areas. This will act as one of the deciding factors for determining the residential densities.

A look into housing development in the Master Plan area will reveal that activities are more concentrated in a single specific node which is the main chowk of Sipajhar Town.

Rest housing activities in the Master Plan area are scattered and dispersed along the road leading to hinterlands. Clear agricultural pockets could be seen in residential area. There is no identified slum-pockets in Sipajhar Municipal area within the town.

4.1.2.AVERAGEHOUSEHOLD SIZE:

Average house hold size in Sipajhar Town ward wise ranges from 3.90 in ward no. 3 to 5.64 in ward no. 7. However at Town level the average House hold size is 4.53 n which is slightly on lower side.

Table V gives the detail regarding this.

**Table - V**
**Average House Hold Size of Sipajhar Town**

| Ward no | Persons/ dwelling unit |
|---|---|
| 1 | 4.85 |
| 2 | 4.68 |
| 3 | 3.90 |
| 4 | 4.86 |
| 5 | 4.11 |
| 6 | 4.41 |
| 7 | 5.64 |
| 8 | 4.47 |
| 9 | 4.61 |
| 10 | 3.93 |

Source :Sipajhar Municipal Board

4.2. STRUCTURAL CONDITION:

Out of total housing stock in Sipajhar, 67.91 % are Assam Type building with C.I sheet roofing and RCC posts. 15.86% are thatched roof, kutcha building and only 16.23% are RCC structures. As far as housing conditions are concerned 44.55% are in good condition and 12.30 % are in a condition not livable.

Generally speaking the type of housing is one of the important parameters of investment capacity of its residents. The quantity of housing increases with the income and affordability of the residents.

**Table - VI**

**Type &Structural Condition of Housing in Sipajhar Master plan area.**

| TYPE OF TRUCTURE | | | CONDITION | | |
|---|---|---|---|---|---|
| R.C.C | Assam type | Thatch | Good | Fair | Bad |
| 16.23% | 67.91% | 15.86% | 44.55% | 43.15% | 12.30% |

Source:- Survey by Town & Country Planning

## 4.3. DEVELOPMENT TRENDS :

An overall study of the housing activities in town will reveal that mostly residential activities are taking place along the NH-15 and towards northern part of the town. There aredevelopment towards southern side also but the same is limited as a major part of the area is low lying and are flood plains of Brahmaputra. Ribbon development pattern in residential area observed along the arterial and sub arterial roads connecting the villages towards north as well as south part of the Master Plan Area.

# CHAPTER -V

## 5.0. COMMERCE, OFFICES AND INDUSTRIES:

Greater Sipajhar area is basically agricultural in nature and has a reputation for producing local varieties of vegetables. Both Rabi and Kharif crops are cultivated in nearby villages and grows abundantly. Its produces, specially seasonal vegetables, are consumed locally and also supplied to Mangaldai Town and surrounding villages. Over the time this area has also grown up as a commercial hub for agro and agro based product.

As the Circle Office, Sipajhar and the block development office for Sipajhar Development Block is situated at SipajharTown, it is also an administrative hub for the revenue matters for the vast rural hinterland.

People from surrounding villages commute to the town on day to day basis to work in the service sectors and also to buy and sell produces in the wholesale and retail market. Trade and Commerce and service, thus, is one of the most important sectors with 33.93 % share of workers as per 2011 census.

A major step was initiated in Sipajhar in 1987 with the establishment of Prag Bosimi Synthetics Limited (PBSL) which is the largest Joint Sector Company and only industrial venture of public – private initiative in the entire North East India promoted by the Government of Assam through Assam Industrial Development Corporation Limited (AIDC) and H. B. Vyas Group. It is the first major Polyester Filament Yarn project that has come up in the North East outside Public Sector since Independence. This grass root project was envisaged to be the catalyst for rapid development of textile and handloom related industries in Assam. But since lock down due to covid-19 outbreak, at present the industry is lying closed.

Further, a bio fuel industry is also coming up at Sipajhar Master Plan Area producing ethanol. Apart from these there is no such remarkable industries in and around Greater Sipajhar area except a few rice and oil mills, food processing, house hold industries, brick and RCC structure manufacturing units, food product units and bakeries.

Taking into consideration the existing agricultural base and also the importance of the town as Commercial hub, both wholesale and retail, there is a possibility to guide the development of the Master Plan area as Commercial cum Agrobased and food processing

Centre along with other possibilities. This may be taken into consideration while framing the policies.

## 5.1. COMMERCIAL CUM SHOPPING CENTER :

### 5.1.1.WHOLESALE TRADE :

**Table – VII**

**Details of Commercial Establishments of**

**Sipajhar M.B. Area**

| WHOLE SALE | RETAIL | TOTAL |
|---|---|---|
| 62 | 313 | 375 |

Source :Sipajhar Municipal Board

Out of total 375 nos. of commercial establishments in Sipajhar Municipal Area 62 nos. are whole sale shops and rest 313 nos. are retail shops dealing with different trades.

The wholesale trade is generally located in the town centre along the NH-15 and deals mainly with agricultural products, agricultural machineries and accessories, motor parts and servicing equipment, hardware and clothes. Since majority of the establishments are situated on the road side, it creates parking problems leading to traffic congestion and many a time accidents.

5.1.2. RETAIL COMMERCIAL :

**Table – VIII**

**Trade and Commerce within Sipajhar Municipal Area, 2021**

| Sl | Trade | Nos. | Sl | Trade | Nos. |
|---|---|---|---|---|---|
| 1 | Groceries/ Fair Price Shop | 68 | 14 | Pan Shop | 12 |
| 2 | Cloth | 74 | 15 | Furniture House | 2 |
| 3 | Mills | 1 | 16 | Cycle Shops | 10 |
| 4 | Stationeries | 33 | 17 | Petrol Pump | 1 |
| 5 | Gas Agency | 1 | 18 | Fertilizer/ Agro | 5 |
| 6 | Medicine | 13 | 19 | Hardware | 23 |
| 7 | Electrical | 26 | 20 | Tailoring | 6 |
| 8 | Garage/ Motor Parts | 12 | 21 | Saloon | 8 |
| 9 | Book Stall | 10 | 22 | Gas Stove etc. | 1 |
| 10 | Wine Shops | 1 | 23 | Computer/ DTP/ Xerox | 19 |
| 11 | Small Industry | 2 | 24 | Mobile shop/ repairing | 12 |
| 12 | Tea Stall | 20 | 25 | Tractor/ Power Tiller sales & servicing | 6 |
| 13 | Jewellery | 9 | | | |
| | TOTAL | | | | 375 |

Source :Sipajhar Municipal Board

5.1.3. DAILY AND WEEKLY MARKETS:

Following are the daily and weekly markets within the Greater SipajharMaster Plan Area.

| | |
|---|---|
| Weekly Market | Sipajhar Main Chowk, Tues day/ Friday |
| Daily Market | Sipajhar Main Chowk |
| Daily Market | Maroi Chowk |
| Daily Market | Ghorabandha |

These markets cater mostly in food grains and local produces such as vegetables, betel nut and pan, poultries, fish, meat and craft items etc. They also serve as 'Mandies' as traders from other towns also visit these areas. Though they serve as trade hubs, there is lack of organized facilities. Accordingly there is a need to look into these issues in this Master Plan.

### 5.1.4. RETAIL TRADE CENTRES:

*(a) TOWN CENTER :*

Major portion of ward no. III is basically the retail centre for the town. The shops are mainly clothes, ready made garments, books, stationeries, medicines, cycle and sweet shops and all are mixed and housed in private building along the NH-15. There are also a few categories such as weaving material and agro products catering mainly to the commuters coming to town. The roads in town area are are narrow except the Highway and devoid of any planned drainage system. Further, parking facilities are limited due to which vehicles are parked mostly in the road sides creating traffic congestion.

*(b) MUNICIPAL MARKET :*

There are 4 (four) municipal markets within Sipajhar town. Total nos. of shops accommodated in these markets are 348. Further 111 nos. are shop owners were allotted lands to build their own shops by the Municipality. However, there are lack of parking and other facilities in these markets which needs to be addressed.

*(C) OTHER SHOPPING CENTRES :*

Smaller unorganised neighbourhood shops are located all throughout the Master plan area serving the local residential centres. Shopping complexes and shopping malls are coming up in the town to cater to the need of consumers under one roof.

### 5.1.5. ISSUES RELATED TO TRADE AND COMMERCE :

The commercial space in town centre of Greater Sipajhar is growing haphazardly. Further the facilities required, such as parking are inadequate resulting in congestion. The wholesale and retail facilities are all mixed up aggravating the situation.

There are some incompatible uses such as Rice and Oil mills operating in the Commercial space. Such uses are required to be relooked which are to be addressed while formulating policies for the Master plan.

### 5.2. ADMINISTARTIVE CRENTRE AND OFFICES :

Sipajhar is a statutory Town of Darrang District and Sipajhar Municipal Board is the urban local body. Accordingly administration is also an important function of the Master Plan area. Other services are also supportive to this function.

The Government Establishments in Greater Sipajhar Master Plan area are scattered all over the town which creates inconvenience to public. Most of the accommodation for Government Offices are in old buildings and are in dilapidated state. Further there are

alsoshortages of permanent office accommodations. Ideally, for greater public convenience, all the Government offices are to be located centrally with proper communication from various locations.

## 5.3. INDUSTRIES :

Industries are the of economic growth. They provide employment opportunities, create a market along with other forward and backward linkages. Industrialisation of a settlement is an important parameter of urbanization and economic growth.

There are countable number of remarkable industries in Greater Sipajhar except for a few small-scale and household industries. Most of the industries are agro based with a few brick manufacturing and concrete industries.

Besides these, a number of engineering workshops, furniture workshops, printing press, automobile repair shops are there to cater to the need of people. As per DICC, there are altogether 3 nos. of functional industries employing 3116 persons at present. The table IX gives details of industrial units by type in Greater Sipajhar Master plan Area.

**Table –IX**

**Industrial Establishment by Category for the year 2022**

**(A) (B)**

| Category | Total No. | No. of Employee |
|---|---|---|
| Micro | 429 | 1318 |
| Small | 16 | 1598 |
| Medium | NIL | NIL |
| Large | 1 | 200 |
| Total | 436 | 3116 |

| Sl. No. | Types of Industries | Units | Total No of Employee |
|---|---|---|---|
| 1 | Brick Manufacturing | 32 | 2197 |
| 2 | Rice Mill | 28 | 50 |
| 3 | Furniture Manufacturing | 12 | 16 |
| 4 | Motor Workshop | 7 | 9 |
| 5 | Weaving | 93 | 96 |
| 6 | Service Sector | 84 | 131 |
| 7 | Others | 188 | 614 |

Source: DICC, Darrang

# CHAPTER -VI

## 6.0. TRAFFIC AND TRANSPORTATION :

Transportation network of a city plays an important role in the city's economy as well as in socio-cultural life. A well hierarchy ofroad network increases the efficiency of the settlement with enhanced functionality and can provide answers to many problems of urban life.

The efficiency of the road network needs to be examined both in terms of inter-city and intra-city movement. As the demand for movement of passengers and goods are growing, it calls for systematic analysis of the situation, such as circulation pattern, road capacities, accessibility, so as to address the issues both through short term as well as long term measures.

This primarily calls for traffic surveys, engineering surveys, points of traffic generations and quality of infrastructure which needs to be related to existing land use pattern. An analysis of the traffic surveys carried out at various locations of existing network would highlight major issues which will guide us to improve the existing transportation network as well as the traffic conditions.

## 6.1. REGIONAL TRANSPORTATION SYSTEM :

The Greater Sipajhar master plan area is connected only by road. The National Highway 15 connecting the northern bank of Assam and the state of Arunachal Pradesh with the rest of the country passes through the heart of Greater Sipajhar Master Plan area. This NH 15 connects the area with Guwahati via Mangaldai and BaihataChariali towards west and with Tezpur town towards east via RowtaChariali.

The State Highway 15 connects this area with Udalguri Town, district head quarter ofUdalguri District, which is situated at 32 km north of Sipajhar Town. Another important state road links the town with the nearest railhead, Tangla Town via State Highway 4 situated at a distance of 40 km towards north west.

6.1.1. REGIONAL TRAFFIC, PASSENGER :

The Sipajhar area is well connected with Guwahati on one side and Tezpur on the other. More than 7 buses of the ASTC plies regularly to and from Guwahati and Tezpur via Mangaldai and Sipajhar. Besides, there are private buses which runs frequently between these two towns. Private buses also ply through Sipajhar to Tangla and Udalguri which also connects Master Plan area with the surrounding rural hinter land.

Sipajhar being the trade centre for the agricultural produce, a considerable traffic converges in from the surrounding rural areas during the early morning hours and moves out during the evening. The traffic also consists of considerable amount of commuters. Since NH 15 connecting lower Assam and Guwahati with northern bank and Arunachal Pradesh passes through this town, a considerable amount of traffic consists of this through fare traffic further aggravating the traffic congestion which needs to be addressed by segregating the regional traffic from the local traffic.

6.1.2. REGIONAL TRAFFIC, GOODS :

A considerable amount of goods traffic bound for Arunachal Pradesh and other towns of the north bank of Assam crosses through this area. Further as Sipajhar town and its surrounding area produces seasonal vegetables and other agricultural produces such as Jute, a good volume of the goods traffic are generated from Greater Sipajhar area for other parts of Assam as well as neighbouring States like West Bengal.

Agricultural productions are also transported to Udalguri and Tangla and surrounding hinterlands which originates from Sipajhar as this town also serves as a market town for theses localities. This transportation of goods requires proper infrastructure for storage, loading, unloading and parking and needs to be addressed accordingly.

6.2. CIRCULATION PATTERN :

There is a mixed circulation pattern in the Master Plan area. As the NH 15 passes through, majority of commercial as well as residential development have taken place along the NH, establishing a ribbon development pattern. As the NH 15 runs from East to West, it bifurcates the town into two distinct portions. The southern portion being char area and liable to flooding, most of the development are taking place towards the north.

Majority of the arterial and sub arterial roads are fanning out towards north and east connecting the hinterland with Greater Sipajhar Master Plan area. The Southern part being

the Char area and fertile are used extensively for agricultural purpose. The roads connecting the Southern part are largely sub arterial roads and connectors facilitating movements of goods and daily commuters.

## 6.3. MAJOR ISSUES:

(i) The NH 15 passing through the town has been a boon as well as a major hindrance as all the through fare traffic, both passengers and goods passes through this Greater Sipajhar Master Plan area leading to congestion.

(ii)The roads are generally narrow with insufficient carriage width. The effectiveness arefurther reduced as a major part of the road are used for parking of vehicles and loading unloading of goods.

(iii) There is no designated parking and loading unloading places. With the rise in traffic volume, there will be an increased demand for such facilities which needs to be addressed.

(iv) There is no established hierarchy of roads in Greater Sipajhar Master Plan area. The physical conditions of the roads are also very pathetic. The roads to Tangla needs to be improved further as this road not only connects Tangla Town with NH 15 but also connects a vast hinterland with the Master Plan area.

## 6.4. TRAFFIC TERMINALS :

Location of terminals centres both for inter-city and intra-city traffic play significant role in the efficiency of city traffic. This location in relation to the traffic nodes is also very significant. It is necessary to examine suitability of location of the existing traffic terminal centres.

### 6.4.1. BUS STATION :

There is one ASTC bus station at the centre of Sipajhar town. There are other stoppage points for private buses in and around the town which are not organised.

### 6.4.2. TRUCK TERMINAL:

At present there is no organised truck terminal. The whole sale market and daily market being located in the town centres, the trucks park in the main road for unloading their

goods. These cause congestion and has to be rectified by making provisions for proper truck-terminal centres.

### 6.4.3. ELECTRIC RICKSHAW/ RICKSHAW STAND :

There is no organised rickshaw stands in the town. Though majority of the rickshaws ply in the internal roads, they use mainly roads for parking thereby reducing effective width of carriage way.

## 6.5. TRAFFIC SURVEYS AND PROBLEMS :

Traffic surveys were conducted by the District Office so as to identify issues related to traffic and their magnitude. These studies would give better understanding of the traffic patterns and identify the issues to be addressed for a better and efficient traffic operational plan.

**Table - X**
**Peak Hour Traffic Volume (From 8-00 AM to 3-00 PM)**

| Traffic Point | Direction | Fast | Slow | Total |
|---|---|---|---|---|
| Sipajhar Circle Office to Sipajhar Main Chowk | Incoming | 698 | 300 | **998** |
| Sipajhar Main Chowk to Sipajhar Circle Office | Outgoing | 723 | 289 | **1012** |
| | **Total** | **1421** | **589** | **2010** |
| Patharighat to Sipajhar Main Chowk | Incoming | 1051 | 381 | **1432** |
| Sipajhar Main Chowk to Patharighat | Outgoing | 970 | 332 | **1302** |
| | **Total** | **2021** | **713** | **2734** |
| Guwahati to Sipajhar - Mangaldai Main Chowk | Incoming | 4195 | 635 | **4830** |
| Sipajhar Main Chowk to Guwahati | Outgoing | 4807 | 440 | **5247** |
| | **Total** | **9002** | **1075** | **10077** |

Table – Peak Hour Traffic Volume

| Point No. | Road Point | Types of Traffic | 8.00 AM to 9.00 AM | 9.00 AM to 10.00 AM | 10.00 AM to 11.00 AM | 11.00 AM to 12.00 AM | 12.00PM to 1.00 PM | 1.00PM to 2.00 PM | 2.00PM to 3.00 PM | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sipajhar Circle Office to Sipajhar Main Chowk (Incoming) | *Bus* | - | - | - | - | - | - | - | - |
| | | *Truck & Tractor* | 1 | 1 | 2 | 2 | 1 | 5 | 3 | **15** |
| | | *LMV/ 4 wheelers* | 2 | 6 | 10 | 5 | 9 | 12 | 10 | **54** |
| | | *Tempo/ Magic/ E-Rickshaw* | 6 | 10 | 12 | 15 | 13 | 8 | 15 | **79** |
| | | *Two-Wheeler* | 34 | 75 | 77 | 95 | 100 | 70 | 99 | **550** |
| | | *Cycle* | 26 | 69 | 46 | 48 | 45 | 32 | 26 | **292** |
| | | *Rickshaw/ Hand Cart* | 1 | - | 2 | 1 | - | 1 | 3 | **8** |
| | | ***Total*** | **70** | **161** | **149** | **166** | **168** | **128** | **156** | **998** |
| | Sipajhar Main Chowk to Sipajhar Circle Office (Outgoing) | *Bus* | - | - | - | - | - | - | - | - |
| | | *Truck & Tractor* | - | 3 | 4 | 2 | 1 | 3 | 3 | **16** |
| | | *LMV/ 4 wheelers* | 1 | 2 | 10 | 9 | 19 | 5 | 4 | **50** |
| | | *Tempo/ Magic/ E-Rickshaw* | 7 | 14 | 10 | 20 | 14 | 8 | 8 | **81** |
| | | *Two-Wheeler* | 39 | 90 | 88 | 109 | 81 | 88 | 81 | **576** |
| | | *Cycle* | 17 | 33 | 47 | 41 | 59 | 39 | 40 | **276** |
| | | *Rickshaw/ Hand Cart* | 2 | 1 | 3 | 2 | 2 | 1 | 2 | **13** |
| | | ***Total*** | **66** | **143** | **162** | **183** | **176** | **144** | **138** | **1,012** |
| 2 | Patharighat to Sipajhar Main Chowk (Incoming) | *Bus* | - | 1 | - | - | - | 2 | 2 | **5** |
| | | *Truck & Tractor* | 2 | 6 | 1 | 1 | 4 | - | 1 | **15** |
| | | *LMV/ 4 wheelers* | 14 | 8 | 20 | 8 | 9 | 14 | 22 | **95** |
| | | *Tempo/ Magic/ E-Rickshaw* | 19 | 22 | 35 | 33 | 20 | 27 | 15 | **171** |
| | | *Two-Wheeler* | 72 | 108 | 80 | 183 | 99 | 112 | 111 | **765** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *Cycle* | 58 | 70 | 42 | 89 | 40 | 39 | 38 | **376** |
| | | *Rickshaw/ Hand Cart* | 1 | 3 | - | 1 | - | - | - | **5** |
| | | ***Total*** | **166** | **218** | **178** | **315** | **172** | **194** | **189** | **1,432** |
| | Sipajhar Main Chowk to Patharighat (Outgoing) | *Bus* | 1 | - | - | - | 3 | - | 2 | **6** |
| | | *Truck & Tractor* | 2 | 9 | 1 | 2 | 2 | - | 2 | **18** |
| | | *LMV/ 4 wheelers* | 1 | 2 | 10 | 9 | 19 | 5 | 4 | **50** |
| | | *Tempo/ Magic/ E-Rickshaw* | 13 | 15 | 12 | 20 | 28 | 16 | 19 | **123** |
| | | *Two-Wheeler* | 51 | 112 | 127 | 130 | 112 | 98 | 143 | **773** |
| | | *Cycle* | 27 | 46 | 71 | 47 | 31 | 49 | 52 | **323** |
| | | *Rickshaw/ Hand Cart* | 4 | - | - | 1 | - | 1 | 3 | **9** |
| | | ***Total*** | **99** | **184** | **221** | **209** | **195** | **169** | **225** | **1,302** |
| 3 | Guwahati to Sipajhar - Mangaldai Main Chowk (Incoming) | *Bus* | 14 | 13 | 25 | 15 | 21 | 21 | 16 | **125** |
| | | *Truck & Tractor* | 51 | 76 | 56 | 126 | 33 | 55 | 63 | **460** |
| | | *LMV/ 4 wheelers* | 81 | 134 | 189 | 151 | 160 | 155 | 106 | **976** |
| | | *Tempo/ Magic/ E-Rickshaw* | 82 | 88 | 91 | 142 | 97 | 100 | 73 | **673** |
| | | *Two-Wheeler* | 240 | 315 | 276 | 360 | 305 | 253 | 212 | **1,961** |
| | | *Cycle* | 114 | 88 | 68 | 100 | 95 | 55 | 55 | **575** |
| | | *Rickshaw/ Hand Cart* | 4 | 8 | 15 | 13 | 9 | 7 | 4 | **60** |
| | | ***Total*** | **586** | **722** | **720** | **907** | **720** | **646** | **529** | **4,830** |
| | Sipajhar Main Chowk to Guwahati (Outgoing) | *Bus* | 32 | 30 | 18 | 19 | 15 | 13 | 19 | **146** |
| | | *Truck & Tractor* | 64 | 51 | 68 | 58 | 56 | 61 | 96 | **454** |
| | | *LMV/ 4 wheelers* | 260 | 365 | 275 | 250 | 233 | 240 | 240 | **1,863** |
| | | *Tempo/ Magic/ E-Rickshaw* | 37 | 44 | 46 | 66 | 51 | 47 | 49 | **340** |
| | | *Two-Wheeler* | 224 | 371 | 265 | 320 | 238 | 270 | 316 | **2,004** |
| | | *Cycle* | 37 | 55 | 62 | 92 | 75 | 32 | 84 | **437** |
| | | *Rickshaw/ Hand Cart* | - | - | - | 1 | 1 | 1 | - | **3** |
| | | ***Total*** | **654** | **916** | **734** | **806** | **669** | **664** | **804** | **5,247** |

Source: Survey carried out by District Office, Town & Country Planning

6.5.1. TRAFFIC VOLUME :

The study of traffic volume was restricted to the main routes and the survey was carried out at three junction points .The survey was restricted only to the peak hour so as to arrive at the maximum traffic volume on these roads.

It is observed from the table above that there is a substantial amount of fast traffic plying in the National Highway at all these traffic points which are basically through traffic. There is substantial flow of slow traffic comprising of bicycles, rickshaws. etc. in the incoming traffic at the points. This is because people commute from the villages to Sipajhar town in connection with employment as well as petty businesses. A good number of bicycle commuters consists of student population who utilise the educational facilities from the surrounding rural areas.

6.5.2 PARKING SURVEYS :

Based on surveys carried out by District Office, Town and Country Planning , it is found that there is no organised parking space in the Greater Sipajhar Master Plan Area. Within the town-centre all the vehicles including the goods carrier are parked beside the road creating congestion.

6.5.3. CONDITION OF ROADS :

Good quality roads act as stimulus to urban growth facilitating smooth and speedy movement of goods and passengers reducing travel time which in turn promotes the fuel efficiency in vehicles. In the Master Plan area 47 % of the roads are either black topped or paved. 25% are Gravelled and rest 28 % are earthen roads which are comparatively new roads.

**TABLE - XI**

**Type of Road in Greater Sipajhar Master Plan Area**

| Sl | Types of Roads | Percentage |
|---|---|---|
| 1 | Black topped/ paved | 47 |
| 2 | Gravelled | 25 |
| 3 | Earthen | 28 |

Source :GIS Survey

# CHAPTER VII

## 7.0 URBAN INFRASTRUCTURE , SERVICES AND AMENITIES:

### 7.1 WATER SUPPLY :

Sipajhartown is presently short of quality water supply facilities. Like wise most towns in Assam, every house hold is equipped with their own system of water supply, source being shallow, deep or ordinary wells within each house hold. The water generally is contaminated with iron which is beyond safe limit.

However, the villages outside the Municipality and within the Master Plan area are presently covered under Jal Jeevan Mission by Public Health Engineering Department. All of these sources are ground water. The standard for water supply to every house hold is 135 LtrPer Person.

**TABLE -XII**

**Highlights of Water Supply Under Jal Jeevan Mission in Greater Sipajhar Master Plan Area**

| Capacity of Water Distribution (Ltr) | Persons Covered | Total Distribution Network (Km) | Nos. of Water Reservoir | No. of Connection |
|---|---|---|---|---|
| 24,22,000 | 42,850 | 307.76 | 68 | 9,689 |

Source:- Public Health Engineering, Mangaldai

### 7.2 STROM WATER DRAINAGE :

There is no planned storm water drainage system in the town except a few road side drains constructed by PWD and Sipajhar Municipal Board. The natural topography of the Master Plan area is practically flat which poses a great challenge to design an efficient drainage network for the Master Plan area.

Apart from other low lying area and water bodies, there are two rivers flowing across the Master Plan area, namely, Saktola, Beng Noi and Nanoi River which eventually fall in to the Brahmaputra. But during the monsoons, when the Brahmaputra is in full swell, these

rivers are not in a position to discharge the rain water and consequently all the low-lying areas are submerged. These rivers do not have any embankments to protect the town from the flood water. Moreover, the town being devoid of drains, the accumulated rain water is unable to flow out and thus inundating the low lying areas of the Master Plan area. The newly developed areas are the worst sufferers in this regard.

Thus there is a felt need to chalk out a Drainage Master Plan and highlight a few feeder drains to converge on the river Saktola, Beng Noiand Nanoi. There is an immediate need to construct trunk drains along the National Highway as well as other arterial and sub arterial roads.

## 7.3. SEWERAGE:

There is no sewerage system for the entire Master Plan area. All the households are equipped with sanitary latrines with individual septic tanks or pit latrines. In case of sanitary latrines, the effluent are discharged in soak pits. As the sources of water supply for the household are shallow wells, there is a possibility for contamination of ground water and this poses a great threat to public health.

## 7.4 HEALTH:

The Medical facilities in the Master Plan area is inadequate . There are one Government Hospitals at Ghorabandha,Sipajhar and another at along with 22 Sub centers in the Master Plan area. Total number of beds in the entire Master Plan area is 33 only. The details of Health Facilities are given in the Table below:

**TABLE- XIII**
**Details of Health Facilities in Greater SipajharMaster Plan Area**

| Sl. No. | Name | Location | Type | No of Beds | No. of Staff | | |
|---|---|---|---|---|---|---|---|
| | | | | | Doctor | Nurse | Other Para Medical Staff |
| 1 | Balipara | Satgharia | Sub Centre | 0 | 0 | 2 | 2 |
| | | Paschim Chuburi | | | | | |
| | | Balipara | | | | | |
| | | Ghopa | | | | | |
| 2 | Byaspara SC | Byaspara | Sub Centre | 0 | 0 | 1 | 2 |
| 3 | Dhekipara SC | Dhekipara | Sub Centre | 0 | 0 | 1 | 2 |
| 4 | Goroimari Punia SC | Punia | Sub Centre | 0 | 0 | 2 | 2 |
| 5 | Hazarikapara MPHC & | Satmatder | PHC/ Sub Centre | 3 | 1 | 1 | 2 |
| 6 | Hazarikapara SC | Hazarikapara | | | | | |
| 7 | Jhakowapara SC | Jhakowapara | Sub Centre | 0 | 0 | 2 | 2 |
| 8 | Kabeichuba SC | Kabaichuba | Sub Centre | 0 | 0 | 2 | 2 |
| | | Borathiabari | | | | | |
| | | Pakabangipara | | | | | |
| 9 | Kandaniapara SC | Dhokapara | Sub Centre | 0 | 0 | 2 | 2 |
| 10 | Khandajan SC | Narikali | Sub Centre | 0 | 0 | 2 | 2 |
| 11 | Khas Sonapur SC | Gharoasonapur | Sub Centre | 0 | 0 | 1 | 1 |
| 12 | Lekhapara SC | Bhuktabari | Sub Centre | 0 | 0 | 2 | 3 |
| | | Bhotardal | Sub Centre | | | | |
| 13 | MaroiBijulibari SC | Maroi | Sub Centre | 0 | 0 | 2 | 2 |
| | | Bijulibari | Sub Centre | | | | |
| 14 | Nayakpara SC | Nayakpara | Sub Centre | 0 | 0 | 1 | 2 |
| | | Khatikuchi | Sub Centre | | | | |
| 15 | Niz Sipajhar SC | Nijsipajhar | Sub Centre | 0 | 0 | 2 | 2 |
| | | Maharidal | Sub Centre | | | | |
| 16 | Paschim Lokrai SC | Duwaripara | Sub Centre | 0 | 0 | 1 | 1 |
| 17 | Pithakowapara SC | Pithakhowa | Sub Centre | 0 | 0 | 1 | 2 |
| 18 | Pokadoli SC | Metapara | Sub Centre | 0 | 0 | 2 | 2 |
| 19 | Sipajhar BPHC/CHC/FRU And Niz Sipajhar SC | Dakshin Chuburi | Govt. Hospitals/PHC/Sub Centre | 30 | 7 | 20 | 5 |

Source : Joint Director Health service Darrang.

## 7.5. EDUCATION

In Greater Sipajhar Master Plan area there are altogether 65 numbers of educational institutions ranking from Lower Primary school to college level with a student population of about 7442. In the following table different categories of educational institutions together with the number of students are shown. The higher institution are mainly concentrated along the NH 15, which also cater to the need of the surrounding rural areas.

The Sipajhar College, a premier institute in the locality, which is situated within the Sipajhar Municipal area was established in the year 1981. Further, with the establishment of a B.Ed college, the area gained a very important place in the educational map of Assam. Apart from the above there are also a few private educational institutes are coming up in Master Plan area.

Considering the total population served by these educational institution the number of institutes are not sufficient which is reflected in their overcrowding as well as poor infrastructure specially in the Middle and Higher level of education.

**TABLE -- XIV**

**EDUCATIONAL INSTITUTION GREATER SIPAJHAR**

**MASTER PLAN AREA**

| Sl. | Institutes | Enrolment | | | Employee/ Teachers | No. of School/ Colleges |
|---|---|---|---|---|---|---|
| | | Total | Male | Female | | |
| 1 | L.P. School | 1970 | 964 | 1006 | 156 | 43 |
| 2 | M.E. School | 194 | 97 | 97 | 29 | 5 |
| 3 | High School | 1808 | 583 | 1225 | 201 | 13 |
| 4 | Higher Secondary School | 1070 | 847 | 223 | 48 | 2 |
| 5 | Higher Education | 2400 | 891 | 1509 | 81 | 2 |
| 6 | Total | 7442 | 3382 | 4060 | 515 | 65 |

Source: Education Department, Darrang

## 7.6 SOCIAL AND CULTURAL INSTITUTIONS :

The Sipajhar locality serves the town as well as the surrounding areas in respect of the social and cultural needs. People flock from the nearby areas during the Ghorabandha Deul, Durga Puja and Eid festival or when there is a huge fair.

There are a good number of religious places at Sipajhar belonging to both the religion Hindu and Islam.

## 7.7. PARKS, PLAY GROUND RECREATIONAL AND OPEN SPACE:

At present, there are hardly any organised active or passive recreational facilities in the Master Plan area. There are some open places in the locality which are often used for certain recreational activities.

There are two play grounds, one under Sipajhar College and another under Sipajhar Higher Secondary School.

## 7.8 OTHER UTILITIES AND SERVICES :

### 7.8.1 POST OFFICE :

There isa Post Office located along the NH 15 and accessible for public at large.

### 7.8.2. POLICE STATION :

There is a Police Station which is also located alongside NH-15.

### 7.8.3. FIRE STATION :

The Fire Station under Fire and Emergency Services of Assam is located at Ward No. 02.

# CHAPTER - VIII

## 8.0. URBAN FUNCTIONS AND FUTURE NEEDS :

Preparation of Master plan for a town is an effort to evolve scientific and rational policies which will meet functional needs of the town and yet satisfy aesthetic and emotional aspirations of its citizens. This requires systematic analysis of present problems and inadequacies of the town and a judicious assessment of future requirements particularly for the period for which the plan is prepared and in this instant case up to the year 2041.

Various issues, problems and shortfall in Greater Sipajhar Master Plan area have been systematically studied and described. Based on the present functions of the town and also based on the existing scenario, an assessment have been made for the future needs of the Master Plan area. While looking into future needs consideration has been given to the major functions which the town will be required to carry out, the trends of development of other urban centres in the region, Government policies, scope for industrial and other economic development activities. Following issues need to be addressed in order to arrive at future demand in various sectors.

1. Population projections particularly within plan period for assessment of various demands
2. Break-up of population in terms of number of families to assess housing requirements.
3. Specific needs of trade and commerce and specialised markets.
4. Public utilities and amenities and drainage.
5. Transportation network and terminal centres for efficient movement of people and goods.

## 8.1. MAJOR URBAN FUNCTIONS :

On the basis of the potential, major urban functions envisaged for GreaterSipajhar Master Plan area are described below which are required to be understood in order to chalk out policy prescription for future. Relative impact of these functions on the future growth of the Master Plan area are to be noted in order to draw a framework for overall development of the Master Plan area.

### 8.1.1. COMMERCIAL AND TRADE CENTRE :

Greater Sipajhar area have already been identified as a prominent commercial and trade center in the region. The town would also perform as market town for the surrounding area. This function is to be boosted further which will call for appropriate infrastructure and land.

### 8..1.2. VEGETABLE GRANARY, AGRO RESEARCH & PRODUCTION CENTRE :

It has been mentioned earlier that Sipajhar is famous for vegetable and other agro products. This function is to be further promoted through proper infrastructure and other peripheral activities, namely, Agro based research centre with a 'Lab to Land' concept to further boost up the agricultural productions.

### 8.1.3. ACADEMIC & SKILL DEVELOPMENT CENTRE :

The Sipajhartown is emerging slowly as an academic centre in the area as students from surrounding villages flock in to the institutes to pursue academic carrier. This function is to be further promoted through suitable policies to establish an academic and skill development hub.

### 8.1.4. SECONDARY ADMINISTRATIVE CENTRE :

Though the district headquarter is established at Managaldai, Sipajhar can be developed as a secondary administrative centre with establishment of Sub divisional level establishment which can be centrally located for easy access of public.

## 8.2. PLAN PERIOD :

Though the growth of an urban settlement is a dynamic process and cannot be confined to a particular time frame, yet for preparation of a Master Plan, it is necessary to assume a time span and mark a "Horizon Year" in order to chalk out policies. The Horizon Year facilitates to quantify the various requirements for the city during the period .

The plan period for Greater Sipajhar Master Plan has been taken up to 2022 – 2041 for a time span of 20 years to make a realistic approach. It will facilitate to incorporate the census data in 2031 and 2041 as and when a revision of Master Plan is required.

Though the plan period for Greater SipajharMaster Plan has been taken for 20 years, interim revision may be carried out every 5 years to make it more dynamic.

## 8.3. FUTURE POPULATION AND CHARACTERISTICS :

### 8.3.1. POPULATION PROJECTION :

An assessment of the future population for the plan period and its characteristics plays a pivotal role for preparation of Master Plan for an urban area as all the requirements for infrastructure, facilities and amenities are dependent on it. Further break up and classification of the estimated population in terms of number of households, working population, student population requiring educational facilities along with socio-economic structures are required to assess type of houses and amenities requires. However, while making an assessment in respect of health and education, the same will have to be based on the population of the town as well as that of the surrounding villages utilising these facilities.

It would be difficult to work out the exact estimate of future population of a town as the factors on which growth of population is dependent, are most of the time, cannot be forseen with accuracy. There are too many variables, and unknown factors involved in estimation and therefore a fair consideration of past trend may be made to arrive at a figure which will suffice the requirement for the present Master Plan. To arrive at a population figure, decennial growth method has been adopted here since this is the simplest of all the methods and is easy to adopt in this instant case.

As the Master Plan area consists of Sipajhar Municipal Board as well as the surrounding villages as per schedule, the population can be divided into Urban and Rural and accordingly future projection for population will also be made. Following are the facts

taken into consideration while working out the population projection for Greater Sipajhar Master Plan area.

a) An observation on the growth of population for Greater Sipajhar Master Plan area will reveal that growth rate in rural area is more than the urban and therefore rural population shall be dominant.

b) Accordingly for overall Master Plan area the growth rate for Master Plan area for the year 2011-2021, 2021-2031 and 2031-2041 can be very well adopted as 15% for all these years.. Thus the target population for the horizon year 2041 will be 79556..

**TABLE -XV**

**Population projection for**

**GreaterSipajhar Master Plan Area**

| Year | Population | | | | | Decadal % Growth |
|---|---|---|---|---|---|---|
| | Urban | % Growth | Rural | % Growth | Total | Master Plan Area |
| 1971 | - | - | 39904 | - | 39904 | - |
| 1981 | - | - | 44772 | - | 44772 | 12.2 |
| 1991 | - | - | 50234 | - | 50234 | 12.2 |
| 2001 | - | - | 54525 | - | 54525 | 8.54 |
| 2011 | - | - | 58964 | - | 58964 | 8.14 |
| 2021* | **15100** | - | **50055** | - | **65155** | 10.5 |
| 2031* | **16610** | 10 | **55387** | 10.55 | **71997** | 10.5 |
| 2041* | **18271** | 10 | **61285** | 10.66 | **79556** | 10.5 |

* Projected population

Source: Census of India & T & CP

8.3.2. OCCUPATIONAL STRUCTURE - ESTIMATES :

Occupational structure reflects the composition of the total workforce which in turn reflects various activities thriving in the city. In order to chalk out a detail Zoning and Land Use proposal for the Master Plan, it is essential to have a fairly good idea of changing occupational trend likely to take place during the plan period.

Although in absence of adequate data, it is further difficult to forsee a correct picture of distribution of working force uptothe year 2041, yet some approximate estimate are possible which can be used for estimation of land requirement for various activities.

Following the decreasing trend in primary sector, from 1971 to 2011, for the year 2041, it is further expected to come down to 60%. Similarly work force in secondary sector is expected to rise up to 15% and the tertiary sector shall grow up to 25%.

Assuming 35% of the total population shall constitute the work force for the Greater Sipajhar Master Plan Area, the target working population shall be asfollows:

**TABLE- XVI**
**Projected Work Force, Greater Sipajhar Master Plan**

| Year | Total Population | Work Force (35%) | Primary (60%) | Secondary (15%) | Tertiary (25%) |
|---|---|---|---|---|---|
| 2041 | 79556 | **27844** | **16706** | **4176** | **6962** |

## 8.4. HOUSING DEMAND :

On the basis of a survey conducted by the District Office, Town and Country PlanningMangaldai and because of the intervention of the flagship program, Pradhan Mantri Awas Yojana both Urban and Rural, the backlog in housing demand at present is nil. But as per structural condition of the housing stock, 25.30% is in bad condition which requires replacement. The average household size in Greater Sipajhar Master Plan Area is 5.40. Accordingly, considering the structural condition the housing demand has been estimated as below.

**TABLE –XVII**

**Projection for Housing Demand Greater Sipajhar Master Plan Area**

| Year | Urban | Rural | Total | Av H/H Size | Total H/H | % Demand | Net Demand |
|---|---|---|---|---|---|---|---|
| 2021* | 19981 | 128050 | 148031 | 5.4 | 27413 | 12.30 | 3372 |
| 2031* | 22379 | 179270 | 201649 | 5.2 | 38779 | 10 | 3878 |
| 2041* | 26407 | 259942 | 286349 | 5.0 | 57270 | 8 | 4582 |

* Projected population

At present, qualitatively, demand for housing is 3372. It is assumed that the housing demand as well as the average household size will decrease as shown above for the year 2031 and 2041. Accordingly the housing demand for the horizon year 2041 will be 4582.

### 8.4.1. DEMAND IN WATER SUPPLY:

On the basis of the projections made and also on the basis of the Water Supply proposal under Jal Jeevan Mission by PHE the following is the requirement in water supply for Greater Sipajhar Master Plan area.

**TABLE- XVIII**

**Projection For Water Supply Demand in Greater Sipajhar Master Plan Area**

| Year | Persons Covered/ To be covered | | No. of Connection (H/H) Covered/ To be covered | | Capacity of Water Distribution (Ltr) | |
|---|---|---|---|---|---|---|
| | Covered | To be Covered | Covered | To be Covered | Existing | Required |
| 2021 | 42850 | 65155 | 9689 | 6599 | 2422000 | 10099025 |
| 2031 | - | 71997 | - | 17999 | - | 2789845 |
| 2041 | - | 79556 | - | 19889 | - | 3082795 |

* Per Person 135 litres of water has been counted

From the above Table the following is the gap in water supply in the proposed period upto 2041.

# CHAPTER - IX

## 9.0. PROPOSED MASTER PLAN FOR GREATER SIPAJHAR AREA :

### 9.1. AIMS AND OBJECTIVES:

A master plan is a dynamic long-term planning document that provides a conceptual layout to guide future growth and development. Master planning is about making the connection between man made objects, social settings, and their surrounding environments. It includes analysis, recommendations, and proposals for the population of Master Plan area, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions.

#### 9.1.1. AIMS:

The aim of Greater Sipajhar Master Plan is to guide for a balanced growth of the Master Plan Area by integrating the development potentials to boost up economic activities and to generate employment opportunities.

#### 9.1.2. OBJECTIVES :

i. To boost up the commercial activities and to develop it as a prominent trade and commerce centre.
ii. To organise the agro-based market and to provide appropriate infrastructure.
iii. To facilitate setting up of infrastructure to promote agro based research.
iv. To chalk out policies for academic and skill development centre.
v. To shape up the urban structure by integrating the major urban functions through efficient and judicious utilisation of land.
vi. To draw up an efficient transportation network by integrating intra-urban and inter urban movements.
vii. To promote harmonious development of residential area.
viii. To provide basic facilities and amenities for convenience of public

## 9.2 BASIC CONSIDERATIONS :

The study of land use pattern, traffic and transportations, physiography, housing and services and work centres contained in previous chapters have brought on many significant issues to be addressed while preparing this Master Plan. Equally important are the scopes and opportunities available in Greater Sipajhar which are to be considered to guide the future course of development for Sipajhar.

Following are the basic points which will form guiding factors for preparation of the Master Plan for Greater Sipajhar.

a. Retain the existing flavour of Sipajhar as the granary for vegetables and agro based produces.
b. Protect and utilise the institutional and other Government lands into efficient uses and foragro based industries and research institutes.
c. Develop appropriate hierarchies in markets and other facilities to boost up the trade and commerce.
d. Encourage establishments of small industrial units.
e. Provide efficient circulation pattern to avoid through efficient traffic.
f. Rational distribution of residential densities so as to minimise disparities.
g. Provision for utilities and services in an integrated manner for the whole Master Plan area.

## 9.3. PLAN CONCEPT :

The plan is prepared on the basis of "Spread Out Concept" where the activities are distributed across the planning area to create a balance. The ribbon development taken place along the existing NH 15 running through Sipajhar Town is maintained. New Expressway is proposed towards north bypassing the town which will open up the hinterland providing scope for more development and mixed use creating investment opportunities.

## 9.4. PROPOSED ZONING& LAND ALLOCATION :

**TABLE- XIX**

**Proposed Zoning of Greater SipajharMaster Plan Area, 2041**

| Sl. | Land Use Categories | Area (Sq Km) | PC of total area |
|---|---|---|---|
| (1) | Residential | 33.57 | 43.53 |
| (2) | Commercial | 5.24 | 6.79 |
| (3) | Industrial. | 6.93 | 8.99 |
| (4) | Public – Semi public | 5.09 | 6.60 |
| (5) | Recreational | 10.31 | 13.37 |
| (6) | Transport& Communication | 8.37 | 10.85 |
| TOTAL DEVELOPED LAND | | 69.52 | 90.15 |
| (7) | Agriculture | 1.16 | 1.50 |
| (8) | Green Belt | 0.98 | 1.28 |
| (9) | Eco zone | 1.59 | 2.06 |
| (10) | Water bodies/River | 2.58 | 3.35 |
| (11) | Open Spaces | 0.08 | 0.10 |
| (12) | Composite l Zone | 1.21 | 1.57 |
| | **Total Area** | **77.12** | **100.00** |

A judicious approach has been taken to allocate the available land to different uses for Greater Sipajhar Master Plan Area. It has been proposed to retain the existing flavour of the locality as agro-based town. Effort have been made to allocate the land as per the provision of URDPFI Guideline. Following are the highlights of the proposed Zoning:

**Table - XX**

**PROPOSED LAND USE**

| Sl. | Land Use Categories | Area in Hectares | PC of total area |
|---|---|---|---|
| 1. | Agricultural Land | 1251.4379 | 16.226 |
| 2. | CBD | 89.0204 | 1.154 |
| 3. | Commercial | 157.9008 | 2.047 |
| 4. | Composite Zone | 274.9913 | 3.566 |
| 5. | Eco Zone | 287.343 | 3.726 |
| 6. | Graveyard/ Cremation Ground | 0.1407 | 0.002 |
| 7. | Green Areas | 12.3656 | 0.160 |
| 8. | Green Belt | 98.3804 | 1.276 |
| 9. | Industrial | 524.6381 | 6.802 |
| 10. | Low Lying Areas | 41.6777 | 0.540 |
| 11. | Open Areas | 6.6665 | 0.086 |
| 12 | Public Semi-Public | 363.02 | 4.707 |
| 13. | Recreational Space | 818.2461 | 10.609 |
| 14. | Residential | 3347.74 | 43.407 |
| 15. | River/Jan | 132.5788 | 1.719 |
| 16. | Road | 161.9277 | 2.100 |
| 17. | SWM Site | 3.9487 | 0.051 |
| 18. | Transportation | 18.3009 | 0.237 |
| 19. | Water Body | 122.158 | 1.584 |
| | Grand Total | 7712.1826 | 100 |

Source: GIS Survey

## 9.5. RESIDENTIAL AREA:

The Master Plan area envisages distribution of residential areas in terms of self contained residential entities which interact with the other groups and with the work centre in a harmonious way for overall efficiency of the town. In Greater Sipajhar area, the residential areas are very under utilised. Hence, in the proposed plan, emphasis is laid out on increasing the density so as to achieve optimum utilisation of urban land. The total area

to be required for residential use of the future population is thus estimated at 3347.74 Ha which forms 43.53% of the total land proposed for development. Target density maintained at 111 Persons/ Ha.

9.5.1. COMMERCIAL AREA :

In order to promote the characteristics as an agro-based commercial town, it is envisaged that a proper hierarchy in trade and commerce is to be set up. Accordingly, it is proposed to provide a wholesale market along with storagegodown along the bypass at Sipajhar. The existing ribbon development along the NH 15 is maintained as a retail commercial with commercial hubs at convenient localities. The total area earmarked for commercial use is 157.90 Ha which is 2.04% of the total developed area.

9.5.2. INDUSTRIAL AREA :

It is envisaged that with the growth of agricultural products in the region, there will be an opportunity to set up agro-based and food processing industries. Accordingly, a total area of 524.63Ha, has been proposed in the Master Plan which will constitute 6.80% of total developed area.

9.5.3. PUBLIC AND SEMI-PUBLIC :

This category consists of multiple uses like Govt. and semi-Govt. offices of various levels, education and health amenities, socio-cultural and religious institutions. Further there is scope to set up agro based research institutes in the concept of 'Lab to Land'.Accordingly area earmarked for this use is 363.02 Ha constituting 4.71% of the total developed area.

9.5.4. RECREATIONAL :

The recreational spaces are basically the rejuvenation points for the citizens. These are organised open spaces like parks and playgrounds. It is proposed to provide an area of 818.25 Ha for this use which will constitute 10.61 % of total developed land.

9.5.5. OPEN SPACES:

These are vacant land reserved for future use and in majority of the cases it belongs to Government. The land in this category is 6.66 Ha which constitute 0.086 % of the total Master Plan area.

9.5.6. GREEN BELT:

Green Belts are the lungs of Master Plan Area which also acts as buffer for future unplanned growth. Total area allocated under Green Belt is 98.38 Ha which is 1.28 % of the total Master Plan Area.

9.5.7. ECO ZONE :

These are no developmental zones which require conservation and preservation. All the area under natural water course, the riverine area and the area under sensitive ecosystem and char area falls under Eco Zone. The area under this zone is 287.34 Ha which is 3.72 % of the Master Plan area.

9.5.8. AGRICULTURE :

In this Master Plan it is proposed to retain the identity of Greater Sipajhar as an agriculturally rich area and accordingly agricultural area are preserved in the residential zone to the extent possible . The area under agriculture is 1251.44 Ha constituting 16.23 % of the total area.

9.5.9. WATER BODIES :

Water Bodies in the Master Plan area are retained and preserved. This zone consists of river courses and ponds and total area under water body is 122.15 Ha constituting 1.58 % of total Master Plan Area.

9.5.10. TRANSPORTATION :

This category of land-use includes land for roads, network, terminal centres, bus depots, parking areas, etc. The total land earmarked under transportation is 18.30 Ha which form 0.23 % of the total developed area.

9.5.11. COMPOSITE ZONE :

Composite Zone is basically a mixed land use zone with compatible uses which avoids any polluting or hazard prone industries. Towns in India as well as in Assam are characterised by mixed land uses. In a way, many a times, the concept of mixed land use has proven to be efficient in terms of utilisation of available land. The mixed use also reduces the travel time between work centre and home. Further in a transit oriented development it has always been advocated for mixed land use to use the potential of transit corridor. In

Greater Sipajhar Master Plan a Composite Zone has been proposed along the Bypass towards North. The area proposed under Composite Zone is 274.99 Ha constituting 3.56% of total Master Plan Area.

# CHAPTER -X

## 10.0 PROPOSED CIRCULATION PLAN :

Proper growth and functioning of a city is very much dependent on an efficient circulation plan backed by efficient transportation system. The proposed circulation plan for Greater Sipajhar Master Plan Area is designed to achieve function oriented transportation system. The proposed Circulation Plan is based on the following basic consideration:

(i) Optimum use of the existing road network through widening, realignment and improvement.

(ii) Development of new roads and transportation facilities like truck terminals, bus stands etc.

(iii) Provisions of adequate car parking facilities.

(iv) Provisions of effective linkages within the town and the region.

(v) Segregation of regional and city traffic.

## 10.1 REGIONAL LINKAGES :

### 10.1.1.ROAD LINKAGE :

Though the National Highway 15 passing through Sipajhar could be considered as a boon to the locality for its development as a trade and commerce centre, with growth of the town, the Highway has also posed issues like traffic congestion, accidents and parking problem. It is now imperative that NH 15 is to be redirected bypassing the urban area.

Accordingly, it has been proposed to align an Urban Expressway bypassing the Sipajharlocality. The above Expressway shall originate at Nij Sipajhar Village and shall pass throughBijulibari village, Satmatder, PakabangiChuburi, and Pithakhowa.

## 10.2. CIRCULATION PATTERN :

The entire circulation system of Greater SipajharMaster Plan Area is proposed to be classified as per following hierarchical order.

**TABLE-XXI**
**Road Hierarchy in Greater Sipajhar Master Plan Area**

| Road Hierarchy | Road Length in Metres | Road width in Metre |
|---|---|---|
| Proposed Urban Expressway | 7807.32 | 60.00 |
| Existing National Highway | 12014.13 | 57.00 |
| Arterial Road | 21606.61 | 50.00 |
| Sub Arterial Road | 40711.28 | 40.00 |
| Distributor/Collector Road | 71337.23 | 15.00 |
| Local Street | 33865.19 | 12.00 |
| Access Street | 517.72 | 6.00 |
| Cycle Track | 33473.37 | 1.9 |
| Walking Zone | 1453.96 | 1.8 |
| **TOTAL** | **222786.79** | |

Source :GIS Survey

1) **Proposed Urban Expressway** : Urban Expressways are divided into highways through traffic with full or partial control of access and generally with grade separations at major crossroads. It is proposed with RoW 60.00 m bypassing the populated area in the line of Transit Oriented Development (TOD) and accordingly Composite Zone has been proposed towards south of this Expressway. Total length of Expressway is 7807.32metres.

2) **Existing Urban Expressway** : NH 15 passing through Greater Sipajhar Area is to be retained with an average RoW of 57 m. This will be the major arterial road passing through Greater Sipajhar Master Plan Area and rest of the roads will act as feeders to it. Total length retained is 12014.13metres.

3)ArterialRoad:They are the primary roads for ensuring mobility function. They carry the largest volumes of traffic and longest trips in a city. These roads are characterized by mobility and cater to through traffic with restricted access from carriageway to the side. In such cases, special provisions should be introduced to reduce conflict with the through traffic. The total length of arterial road identified is 21606.61 metres and RoW 50 metre.

4)**Sub Arterial Road**: This category of road follows all the functions of an Arterial Urban road and is characterized by mobility, and caters to through traffic with restricted access from carriageway to the side. It carries same raffic volumes as the arterial roads. Due to its overlapping nature, Sub arterial roads can act as arterials. This is context specific and is based on the function and the land use development it passes through. Total length under Sub Arterial category is 40711.28 metres and RoW 40 metres.

5) **Distributor/Collector Roads**: As the name suggests, these are connector roads, which distribute the traffic from access streets to arterial and sub arterial roads. They are characterized by mobility and access equally. It carries moderate traffic volumes compared to the arterial roads. Due to its overlapping nature, distributor roads can act as sub arterial and as access streets, depending upon the function and the land use of the surroundings. Total length of Distributor/ Collector road is 71337.23 metres and RoW 15 metres.

6)**Local street**: These are intended for neighbourhood (or local) use on which through traffic is to be discouraged. These roads should be made pedestrian and bicycle friendly by using modern traffic calming designs to keep the speeds within limits as per design. Total length of Local street is 33865.19metres RoW 12 metres.

7)**Access street**: These are used for access functions to adjoining properties andareas. A majority of trips in urban areas usually originate or terminate on these streets. Total length identified is 517.72 metres.

## 10.3. TERMINAL FACILITIES:

(I) BUS TERMINAL :

An Inter City bus terminal has been proposed at Bijulibarialong the proposed Expressway with an area of 32 Ha. The existing ASTC bus terminal in Sipajhar will also continue to function and shall also be used for parking facilities with appropriate infrastructure.

(II) TAXI, PARA TRANSIT, PARKING AND MULTIPURPOSE COMPLEX :

A multi purpose Complex facilitating as Taxi, Light Vehicle, Para Transit along with parking facilities for other vehicles has been proposed near the proposed Inter City Bus

Terminal at BijulibariVillage. This will also house a commercial hub for convenience of public. Total area ear marked for this is 10 J\Ha.

(III) TRUCK TERMINAL:

One truck terminal with all necessary servicing facilities are proposed on the proposed Expressway at PakabhangiChuburi. This will facilitate easy movement of goods and services.

# CHAPTER – XI

## 11.0. PROPOSED UTILITY IN GREATER SIPAJHAR MASTER PLAN (STORM WATER DRAINAGE)

### 11.1.PROPOSED DRAINAGE :

Planning a drainage system in Sipajhar Master Plan area is indeed a challenging task as the terrain is a flat one. However, on the basis of the available data based on google map a conceptual drainage plan has been chalked out for Sipajhar Master Plan Area.

#### *11.1.1. BASIC CONSIDERATIONS:*

While making the plan for the drainage system the following considerations have been made:

a) The three tributaries of Brahmaputra river, namelySaktola, Beng Noi and Nanoi rivers flowing through the Master Plan area shall act as major drainage outlets to drain out the water from town area.
b) These three rivers are to be earmarked with the help of the Revenue and Disaster Management Department and any encroachment on it should be removed immediately. The channel need to be conserved.
c) Necessary channel improvement works along with re-sectioning and dredging wherever required are to be carried out.
d) Drains are to aligned along the major roads and accordingly hierarchy of drains are to be maintained.

#### *11.1.2. HIEARARCHY OF DRAINS IN MASTER PLAN AREA:*

Based on the above considerations the following are the hierarchies of drains worked out:

(A) Primary Drains :

These are basically trunk drains along the major roads like Expressway and existing highway which shall finally drain out the water to natural streams for final disposal of storm water.

(B) Secondary Drains :

These are feeders drains for the primary trunk drains as mentioned above and shall be aligned along the major arterial roads. These shall be designed as drains cum foot paths for convenience of the commuters.

(C) Tertiary Drains:

These are the foot path cum collector drains from sub catchment area which shall dispose the water into the Secondary drains. These shall be aligned both along the Arterial and Sub- arterial roads depending on the situation.

Following table gives the length of drains proposed for the Master Plan area:

**TABLE –XXII**

**Hierarchy in Storm Water Drains**

| Hierarchy of Storm Water Drains | Length in Km |
|---|---|
| Primary Drain (Trunk) | 43.52 |
| Secondary Drain | 64.02 |
| Tertiary Drain | 10.14 |
| TOTAL | 117.67 |

Source:GIS Survey

# CHAPTER - XII

## 12.0. PLAN IMPLEMENTATION :

The Master Plan preparation process shall be fruitful if sustained efforts are made to enforce and implement the plan proposals. However there is always a built in scope for critical examination of the proposals laid down in a Master Plan. The outline of development policies put forward in the Master Plan shall go a long way in shaping the urban environment and thereby mitigating the ill effects of urbanisation. Citizens of the area also play major role in the successful implementation of the plan.

## 12.1. PLAN ADMINISTRATION :

The Master Plan for Greater Sipajhar prescribes the broad policies and programmes for improvement of the region up to the year 2041. The administration of the Plan will be carried out under the provisions of the Assam Town and Country Planning Act of 1959 (as amended).

Section 8 A of the Assam Town and country Planning Act, 1959 empowers the State Government to constitute a "Development Authority" for enforcement, control and implementation of development proposals envisaged in the Master plan. As the Master Plan also encompasses the Municipal area, within the Municipal Limit the Master Plan shall be enforced by the Sipajhar Municipal Board as per the provision of the Assam Municipal Act, 1956.

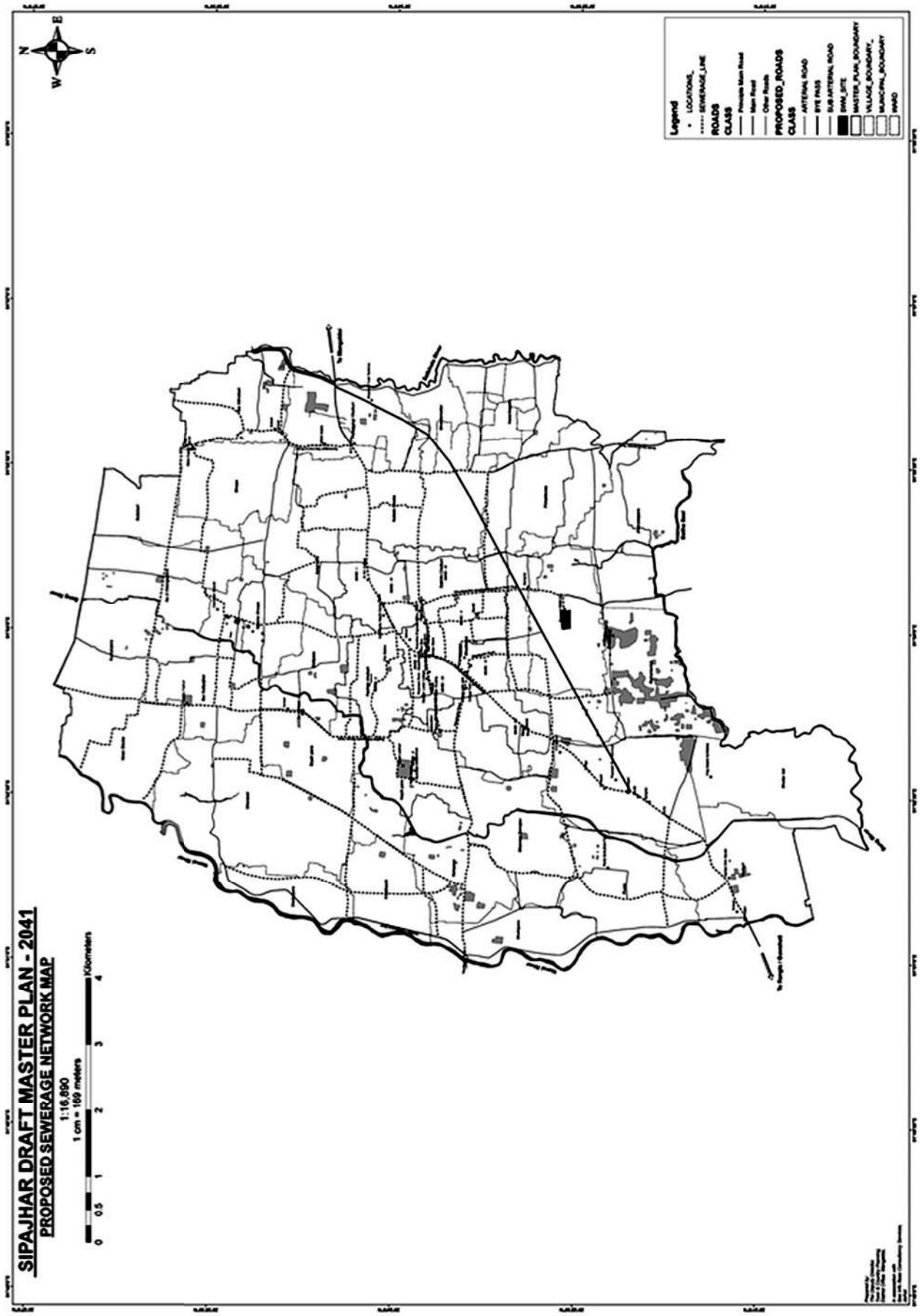
## 12.2. PUBLIC PARTICIPATION :

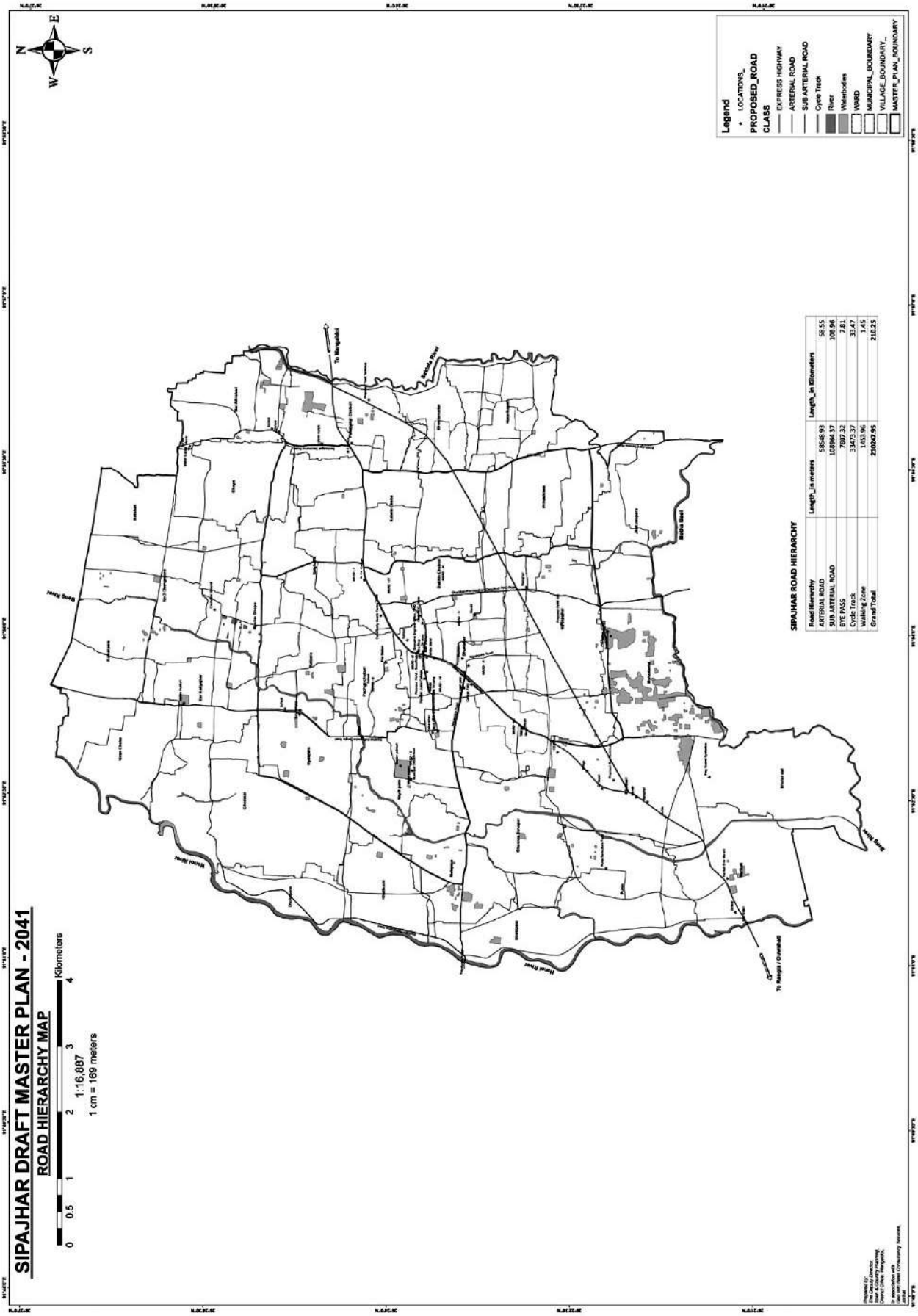
Master Plan implementation cannot be successful without active public participation as Citizens play a major role in the physical development of a city by undertaking construction and reconstruction of structures and development of land for various uses. Therefore, it is imperative that the Master Plan should be widely published to draw requisite attention from public in order to create an overall consciousness.

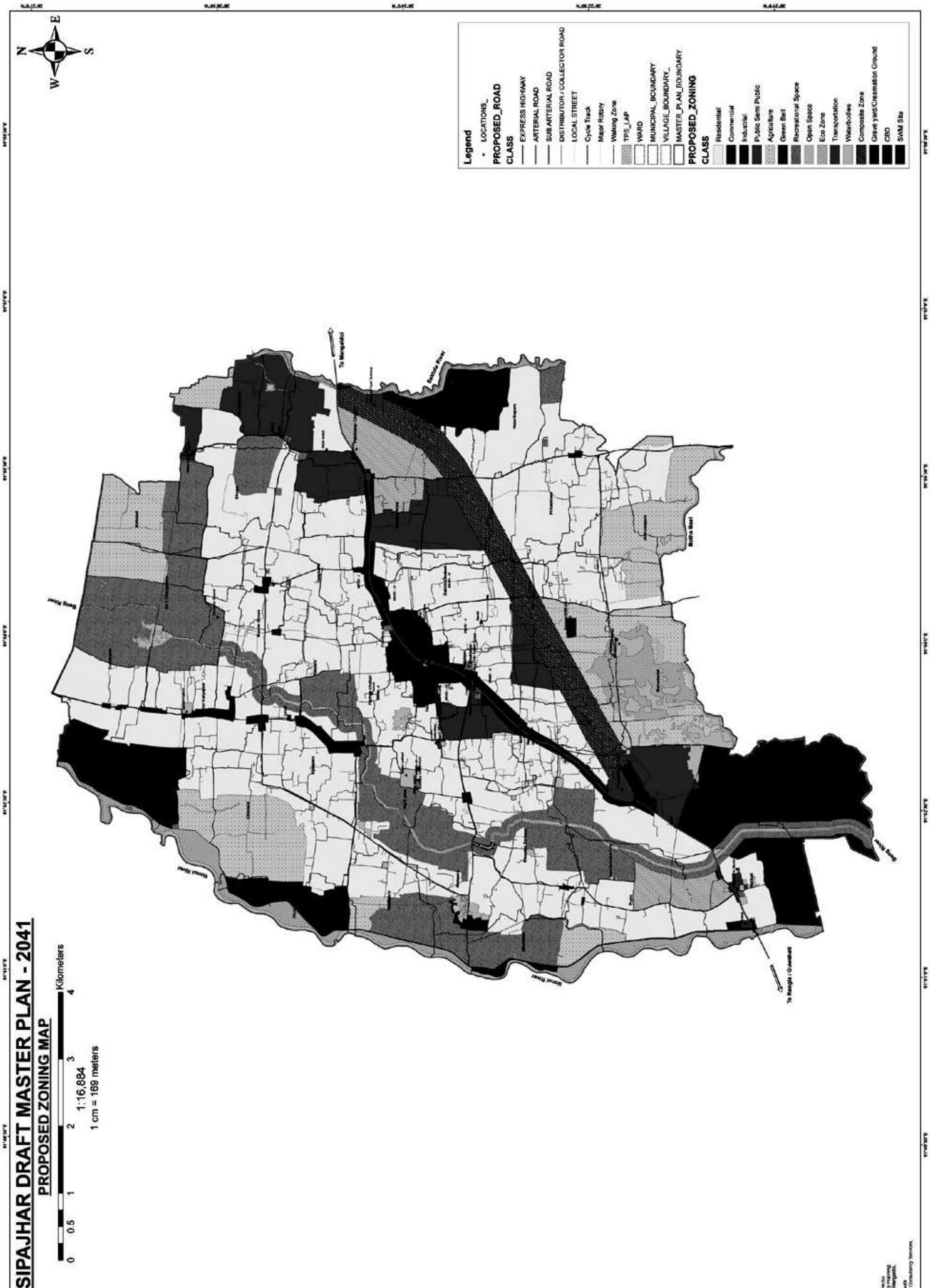
## 12.3. CONCLUSION :

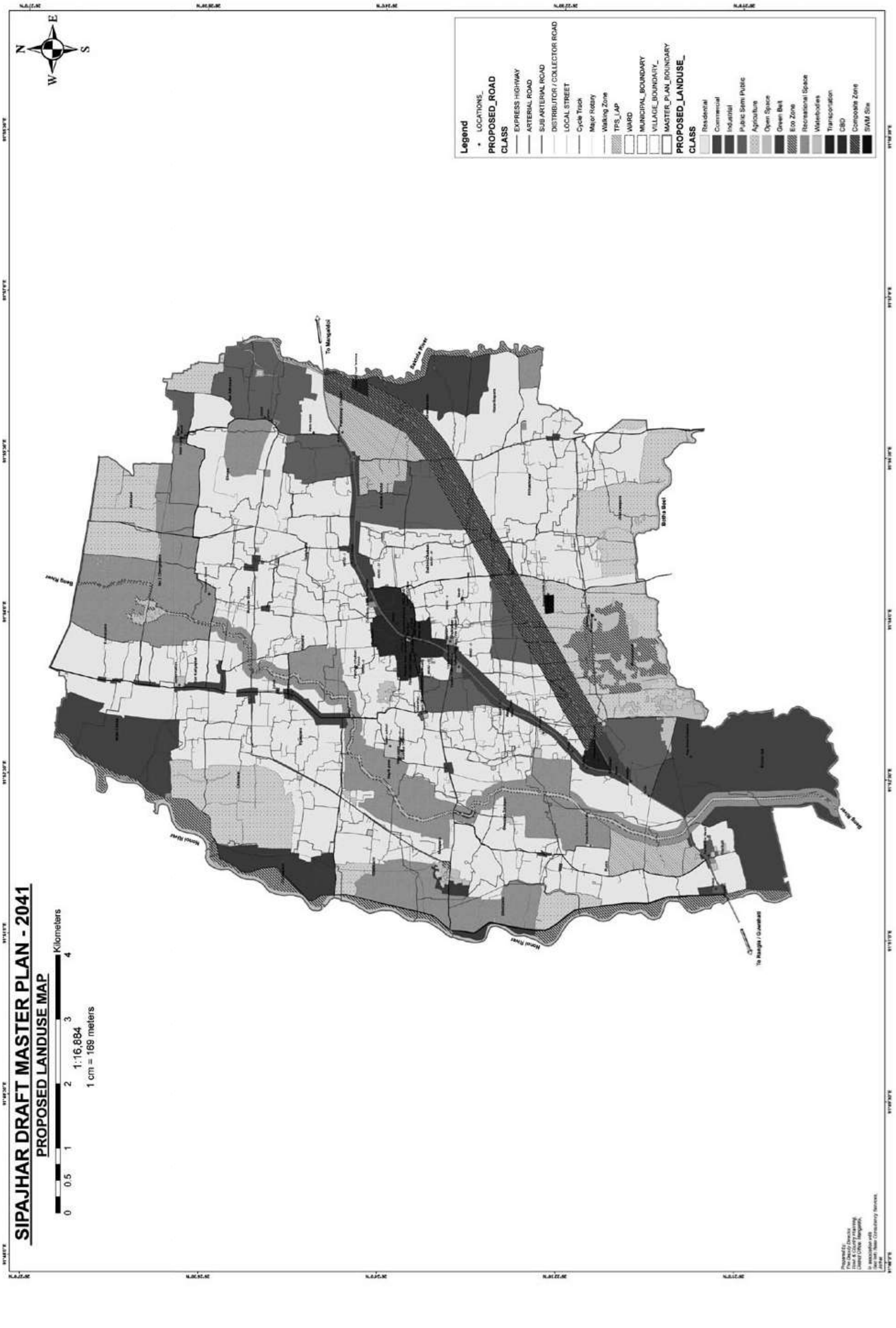
Urbanisation is an inevitable process and bound to happen. Master Plan provides a scope to forsee the future development and can be treated as an eye opener for the policy makers. Unplanned growth of the cities has posed many problems in the past.

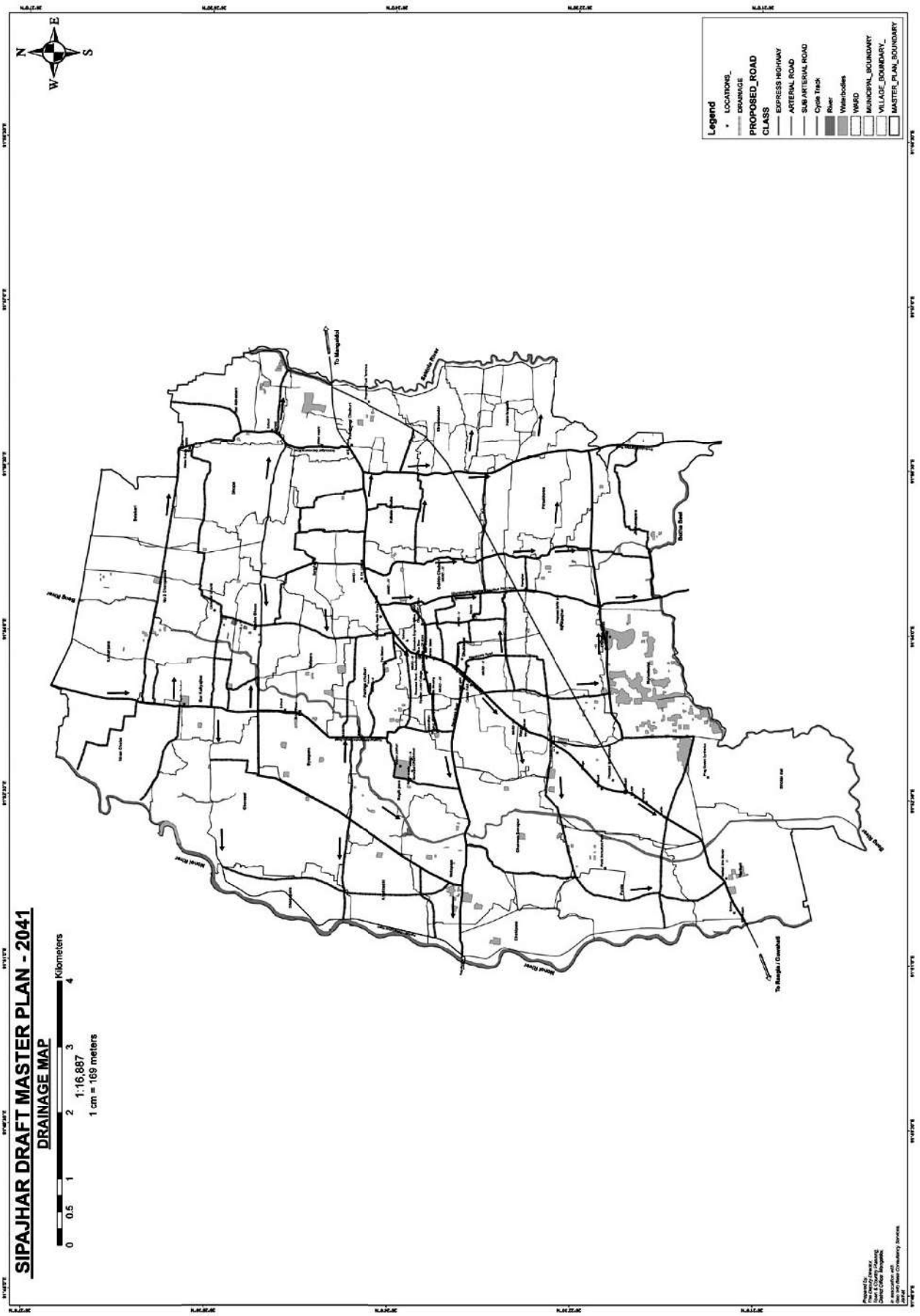
Cities are the engines of growth and hence a planned city with efficient functional behaviour can contribute not only to the economy of the locality but also stand out as an important growth centre in the region serving a vast hinterland effectively through the mechanism of Master Plan proposal.

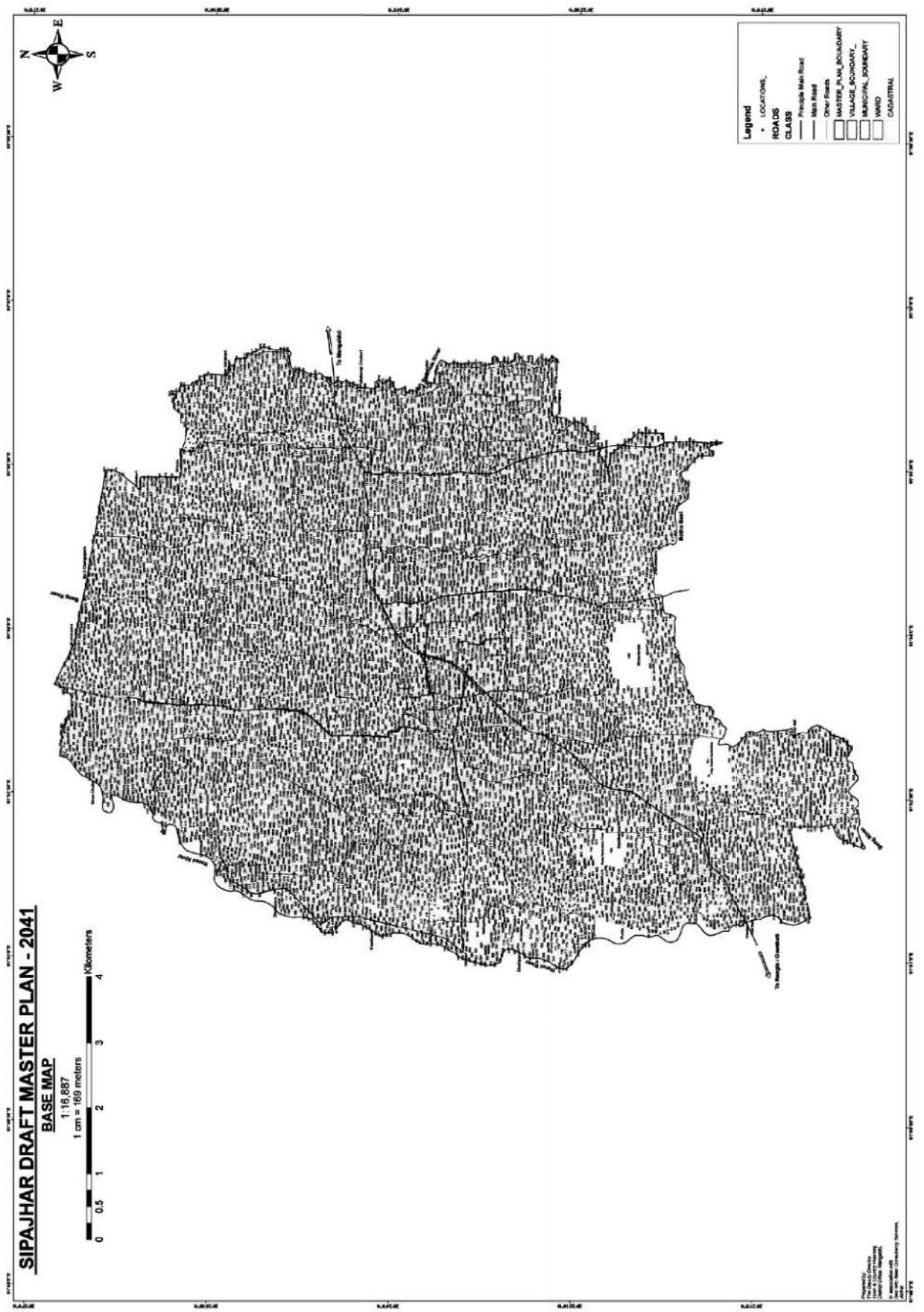

SIPAJHAR DRAFT MASTER PLAN - 2041
PROPOSED SEWERAGE NETWORK MAP
1:16,890
1 cm = 169 meters
Kilometers
Legend
LOCATIONS_
SEWERAGE_LINE
ROADS
CLASS
PROPOSED_ROADS
CLASS
ARTERIAL ROAD
BYE PASS
SUB ARTERIAL ROAD
SWM_SITE
MASTER_PLAN_BOUNDARY
VILLAGE_BOUNDARY_
MUNICIPAL_BOUNDARY
WARD


SIPAJHAR DRAFT MASTER PLAN - 2041
ROAD HIERARCHY MAP
0 0.5 1 2 3 4 Kilometers
1:16,887
1 cm = 169 meters
N
E
S
W
Legend
LOCATIONS_
PROPOSED_ROAD
CLASS
EXPRESS HIGHWAY
ARTERIAL ROAD
SUB ARTERIAL ROAD
Cycle Track
River
Waterbodies
WARD
MUNICIPAL_BOUNDARY
VILLAGE_BOUNDARY_
MASTER_PLAN_BOUNDARY
SIPAJHAR ROAD HIERARCHY
Road Hierarchy | Length_In meters | Length_In Kilometers
ARTERIAL ROAD | 5856.93 | 58.55
SUB ARTERIAL ROAD | 10896.37 | 109.96
BYE PASS | 7897.32 | 7.81
Cycle Track | 3413.37 | 33.47
Walking Zone | 1453.96 | 1.45
Grand Total | 210347.95 | 210.23


SIPAJHAR DRAFT MASTER PLAN - 2041
PROPOSED ZONING MAP
0 0.5 1 2 3 4 Kilometers
1:16,884
1 cm = 169 meters
N E S W
Legend
LOCATIONS_
PROPOSED_ROAD
CLASS
EXPRESS HIGHWAY
ARTERIAL ROAD
SUB ARTERIAL ROAD
DISTRIBUTOR / COLLECTOR ROAD
LOCAL STREET
Cycle Track
Major Rotary
Walking Zone
TPS_LAP
WARD
MUNICIPAL_BOUNDARY
VILLAGE_BOUNDARY_
MASTER_PLAN_BOUNDARY
PROPOSED_ZONING
CLASS
Residential
Commercial
Industrial
Public Semi Public
Agriculture
Green Belt
Recreational Space
Open Space
Eco Zone
Transportation
Waterbodies
Composite Zone
Grave yard/Creamation Ground
CBD
SWM Site
To Mangaldoi
To Rangia / Guwahati


SIPAJHAR DRAFT MASTER PLAN - 2041
PROPOSED LANDUSE MAP
0 0.5 1 2 3 4 Kilometers
1:16,884
1 cm = 169 meters
Legend
LOCATIONS_
PROPOSED_ROAD
CLASS
EXPRESS HIGHWAY
ARTERIAL ROAD
SUB ARTERIAL ROAD
DISTRIBUTOR / COLLECTOR ROAD
LOCAL STREET
Cycle Track
Major Rotary
Walking Zone
TPS_LAP
WARD
MUNICIPAL_BOUNDARY
VILLAGE_BOUNDARY_
MASTER_PLAN_BOUNDARY
PROPOSED_LANDUSE_
CLASS
Residential
Commercial
Industrial
Public Semi Public
Agriculture
Open Space
Green Belt
Eco Zone
Recreational Space
Waterbodies
Transportation
CBD
Composite Zone
SWM Site
To Mangaldoi
Botha Beel
Nonoi River
To Rangia / Guwahati


SIPAJHAR DRAFT MASTER PLAN - 2041
DRAINAGE MAP
0 0.5 1 2 3 4 Kilometers
1:16,687
1 cm = 169 meters
N
E
W
S
Legend
LOCATIONS_
DRAINAGE
PROPOSED_ROAD
CLASS
EXPRESS HIGHWAY
ARTERIAL_ROAD
SUB-ARTERIAL ROAD
Cycle Track
River
Waterbodies
WARD
MUNICIPAL_BOUNDARY
VILLAGE_BOUNDARY_
MASTER_PLAN_BOUNDARY




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